Consultation response for

Panels and mouldings for interior use

Version 7.0

2024-01-25

Nordic Ecolabelling

Nordic Swan Ecolabelled panels and mouldings for interior use – Consultation response

010/7.0 – 2024.01.25

1 Summary

The consultation on reviewing the draft criteria for Panels and mouldings for interior use, gen 7, has been conducted in all Nordic countries in the period from 15 June 2023 to 31 August 2023. Several consultation comments have been received to the proposed draft.

The overall aim of this revision is to ensure that the Nordic Ecolabelling criteria continue to ensure positive environmental benefits via ecolabelling and that the criteria are viable and clear for the industry. The main comments apply to the following sections and requirements:

O3 Acoustic panels, acoustic performance
Several stakeholders point out that the absorption class of a product is not the only relevant parameter to look at in acoustic design. More sophisticated acoustic room design might also require other products with alternative acoustic features as (semi)reflection, specific frequency tuning (e.g., low tone absorption for increased speech intelligibility) or sound insulating properties that does not yield class A or B. The requirement has therefore been adjusted for acoustic panels which is marketed with an alternative primary acoustic feature such as specific frequency tuning or reverberation time for use in e.g., sound studios, concert halls, cinemas. These types of panels do not need to yield class A or B – but the sound absorption class must be tested and stated.

Traceability and certified wood
Comments saying that the requirement for particle boards is unclear formulated and not relevant due to lack of quality recycled raw materials (long transportation)/the marked already uses all available recycled raw materials. The requirement has been changed from minimum 50% post-consumer recycled materials to 50% recycled materials. This is to prevent any Nordic Swan Ecolabelled particle boards to be made from entirely virgin wood raw materials. Particle boards also still needs to comply with the common forestry requirement for: CoC certification, min. 70% from certified forest/or be recycled materials and the remaining proportion being FSC/PEFC controlled wood/sources or be recycled.

Textile, synthetic fibres
Stakeholder comments that not possible to produce quality polyester fibre from 100% recycled materials. The requirement has been changed from 100% recycled materials to minimum 50% post-consumer recycled materials.

Recycled composite
Stakeholder comments are sceptic to include traditional WPC in the product group. However, the requirement was formulated wrongly. The intention was that only recycled material that is already a composite material should be included in the criteria. The requirement has been changed now referring to 100% composite recycled materials of which 50% is to be post-consumer recycled material.

Recycled content in mineral wool
Comments saying that 85% recycled material in glass wool is too ambiguous. The requirement has been adjusted to min. 70% recycled materials in glass wool.

Emissions of formaldehyde and VOC
Several stakeholders point out the uncertainties regarding ongoing EU legislation for emission of formaldehyde (test methods, level of requirement, taxonomy). The requirement for formaldehyde emissions from panels are harmonised with the EU Taxonomy requirement. The specified test conditions refer to in Annex XVII in Regulation (EC) No 1907/2006. However, the use of different test standards in relation to the stated emission value of 0,06 mg of formaldehyde per m3 (correlation between standards) is still being debated. That's way, for now, the limit of 0,06 mg/m3 is only set in relation to EN717-1. As soon as the test lab/industries agrees on a common correlation between EN 717-1 and EN 16516 this will be added to the criteria. For laminate and other types of panels, e.g., gypsum and cement-based panels, the limit value is set to 0.03 mg/m^3 according to EN 16516. This limit value is the same in generation 6 of the criteria.

Energy consumption – laminate production
Comments saying that the proposed limits for respectively HPL ≥ 2 mm and HPL ≤ 2 mm seams wrong. The requirement has been changed from proposed 14 MJ/kg to 8 MJ/kg for HPL ≥ 2 mm and from proposed 8 MJ/kg to 11 MJ/kg for HPL ≤ 2 mm.

Energy consumption – wood-based panels
Stakeholder comments that the proposed limits for particle boards and MDF is too ambiguous. The requirement has been adjusted from 6 to 6,5 MJ/kg for particleboard and from 7 to 9 MJ/kg for MDF panels.

Energy consumption – gypsum plasterboards
Comments saying that the proposed limit (3 MJ/kg) for standard boards (type A, according to EN520) is okey but not for premium boards. A new limit of 3,5 MJ/kg has been introduced for premium boards such as impact resistant boards.

Energy consumption – mineral wool
Comments recommending changing the limits for glass- and stone wool. The limits have been adjusted from 11 to 15 MJ/kg for stone wool and from 15 to 13 MJ/kg for glass wool.

In section 6, you find a table showing all the changes than been done in the criteria document after the final draft consultation.

The consultation was initiated with one pre-consultation periods which subsequently has formed the basis for the final draft criteria. Nordic Ecolabeling consulting response comments to the first pre-consultation periods are in chapter7.

2 About the consultation

This document consists of feedback received during the public consultation for revised criteria for panels and mouldings for interior use and Nordic Ecolabelling's response to this feedback.
The purpose of this document is to show how external feedback has affected the development of the draft criteria in compliance with the ISO 14024 standard.

Nordic Ecolabelling is grateful for all inputs that helped us in the development of both environmentally ambitious and market-based criteria for panels and mouldings for interior use.

Nordic Ecolabelling has in this revision tested a public consultation format which contained a preliminary pre-consultation (from 13. October 2022 to 9. December 2022). The pre-consultation only focused on panels made from renewable raw materials. Based on feedback from the pre-consultation period, Nordic Ecolabelling drafted a proposal for criteria for panels and mouldings for interior use, for a final public consulting period.

Response to consultation comments
Nordic Ecolabelling has in section 4 given a response to all comments and described if the requirement has been adjusted. In section 5, you find a table showing all the changes that has been done in the criteria document after the final draft consultation.

3 Compilation of received responses

Table 1: Summery of stakeholder consultation comments on the draft for Nordic Ecolabelling criteria for panels and mouldings for interior use.

Country	A. Only comments	B. Supports the proposal	C. Supports the proposal with comments	D. Refrain from commenting	E. Rejects the proposal with justification	Totally
Denmark	7					7
Sweden	4			1		5
Finland	5					5
Norway	2			1		3
Iceland						
Totally	18			2		20

Table 2: Danish consultation responses comments on the draft for Nordic Ecolabelling criteria for panels and mouldings for interior use.

Consultation body	A. Only comments	B. Supports the proposal	C. Supports the proposal with comments	D. Refrain from commenting	E. Rejects the proposal with justification
Saint Gobain	x				
European Panels Federation (EPF)	x				
Miljøministeriet	x				
Rockfon	x				
Knauf	x				
Euro Gypsum	x				
Kronospan	x				
Σ Danish responses:	7				

Table 3: Swedish consultation responses comments on the draft for Nordic Ecolabelling criteria for panels and mouldings for interior use.

Consultation body	A. Only comments	B. Supports the proposal	C. Supports the proposal with comments	D. Refrain from commenting	E. Rejects the proposal with justification
Recoma	x				
Akustikmiljö	x				
Unilin Panels	x				
Boverket				x	
SVEFF	x				
Σ Swedish responses:	4			1	

Table 4: Finnish consultation responses comments on the draft for Nordic Ecolabelling criteria for panels and mouldings for interior use.

Consultation body	A. Only comments	B. Supports the proposal	C. Supports the proposal with comments	D. Refrain from commenting	E. Rejects the proposal with justification
Kiilto Oy	x				
Paroc Goup Oy	x				
Muovilami Oy	x				
Metsä Wood	x				
Federation of the Finnish Woodworking Industries	x				
Σ Finnish responses:	5				

Table 5: Norwegian consultation responses comments on the draft for Nordic Ecolabelling criteria for panels and mouldings for interior use.

Consultation body	A. Only comments	B. Supports the proposal	C. Supports the proposal with comments	D. Refrain from commenting	E. Rejects the proposal with justification
Miljødirektoratet				x	
Forestia AS	x				
Dynea	x				
Σ Norwegian responses:	2			1	

4 Comments to the criteria, in detail

The various comments from the consultation stakeholders have been inserted below and grouped in relation to the specific requirement. Nordic Ecolabelling has given a response to all comments and described if the requirement has been adjusted.
In section 6, you find a table showing all the changes that have been done in the criteria document after the consultation.

4.1 General comments

European Panel Federation (EPF)
Summary: The new reduced proposal for the emission limit of formaldehyde by Nordic Swan (June 2023) is the lowest limit ever proposed in the history of wood-based panels. It will lead to the consequence that only a very limited and selected proportion of the produced wood-based panels in Europe will be able to be produced according to this limit.

One product group is PMDI-bonded OSB, which just can fulfil this limit in most cases. Even in the production of PMDI-bonded OSB, the formaldehyde generated from the virgin wood (as used predominantly) in the OSB production) during drying of the strands might exceed the limit. Concerning a possible emission there is no difference if formaldehyde is added via an adhesive during the production or if it is naturally born formaldehyde out of the decomposition of lignin and/or hemicelluloses.

Theoretically particleboard and MDF can be produced by using PMDI (the only di-isocyanate type used in the wood-based panels industry) as adhesive; however, there are well-known reasons why the proportion of such PMDI-bonded particleboard and MDF in relation to the production volumes actually in Europe is far below 1%. One reason is the well-known sticking of a PMDI-bonded surface (outer layer in MDF) to the steel belts or press platens. It is true that for OSB this problem has been solved by the extensive application of release agents. However, the face layer of OSB consists *per definition* of big area strands, where a certain application of release agent either to the strands or to the steel belts is sufficient for preventing from sticking of the strands to the steel belts. For particleboard and MDF the size of the wooden material is by orders of magnitude lower, well below 0.5 mm for the particleboard face layer material and with fibre sizes (diameter about 0.03 – 0.04 mm) for MDF. This has the consequence of much larger total surfaces of fine particles and fibres compared to strands (at same mass of material), whereby the surface of all these small wooden materials must be secured from sticking.

The second aspect is the already mentioned fact that for fulfilment of the extremely low formaldehyde emission limit according to the new Nordic Swan proposal, PMDI is the only adhesive, which actually can be used. Aminoplastic resins, which actually are the dominating adhesive in the wood-based panels industry, cannot be used in the production of boards according to the requirements of the new Nordic Swan proposal. PMDI however is restricted in its availability; this has been shown several times in the last 1 – 2 decades, where even OSB had to switch from PMDI as adhesives to other adhesive resins, in order to avoid stop of the board production.

Other adhesives, e.g., based on formaldehyde, do not fulfil the new Nordic Swan limits. Formaldehyde-free naturally based adhesives are, so far, not yet ready for secured use in the production of wood-based panels.

Plywood, as this board type is shown on the title page of the Nordic Swan document, cannot be produced using PMDI. The use of lignin-modified phenolic resins, as partly the case in northern countries of Europe, does not fulfil the new proposal of the Nordic Swan.

Based on these aspects it must be expected that a very restricted offer of raw wood-based panels will be available fulfilling the new Nordic Swan limits.

Coating of raw boards with foils or impregnated papers might be an option but means that only such coated boards will be offered at the market, instead of raw boards. The new limit, however, first needs to be fulfilled and evidence must be shown. The limit for “laminates” is 0.02 mg/m³ (= 0.016 ppm) according to EN 16516. This is equal to 0.008 ppm according to EN 717-1, whereby the accuracy of the EN 717-1 is 0.01 ppm). This means that this limit is very close to or even below the detection limit of the method. So far it is not guaranteed that this low emission limit can be fulfilled by laminates. In addition, strict regulations concerning sealing of edges when processing such boards is an important aspect and needs individual evidence by test results.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. See respond under the specific requirements.

Miljøministeritet
Afsnit 2.4 Circular economy and climate:
"The use of renewable and recycled raw materials also reduces overall energy consumption indirectly, and the impact on the climate is reduced."
Det vil være relevant, hvis Nordisk Miljømærkning kunne underbygge dette udsagn specifikt for denne produktgruppe med henvisning til relevant litteratur eller lovgivning. Det er også relevant for argumentet om udvidelsen af produktgruppen og muligheden for at kompositmaterialer kan indgå.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. Extraction and processing raw resources to make usable materials (paper, plastic, or metal) requires a lot of energy. Recycling often saves energy because the production being recycled usually require much less processing to turn them into usable materials. Use of recycled materials is an important part of EU's policy for responsible sourcing[1]. Composite waste such as beverage cartons is difficult to separate into separate types of raw materials. The potential to transport (upcycle) the composite waste material into a more valuable product such as a wall panel promote the circular economy and material usage as well a decrease the amount of waste and emissions generated in the construction sector in the Nordics/EU.

Paroc Group Oy
Paroc anser att det är av stor vikt att miljömärkningar, särskilt sådana med offentliga kopplingar som Svanen, baseras på vetenskaplig grund och värnar faktabaserad konkurrensneutralitet. Vi upplever att förslaget till Svanen-märkning av paneler och lister för inomhusbruk utifrån dessa principer bör revideras. De obligatoriska krav som föreslås i sektion O27 avseende grad av återvunnet material och kraven på energianvändning i produktionen i O61 kan medföra att inga stenullsisoleringsprodukter framgent kan klara kraven i paneler som ska Svanen-märkas.

Paroc är positiva till tuffa hållbarhetskrav men undrar om ni haft en dialog med branschexperter när ni väljer nivån på krav på återvinningsgrad och energianvändning i produktionen och är medvetna om vart gränserna går för när konsekvensen av kraven blir att stenullsisolering inte kan inkluderas i konstruktioner och produkter som ska Svanen-märkas och om den totala kvalitets- och hållbarhetsprestandan hos de material som därmed premieras?

Paroc står till förfogande för att delge Svensk Miljömärkning verifierade fakta och underlag som beskriver både kvalitets- och hållbarhetsprestandan hos stenullsisolering.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. The proposed requirements for O27 (share of recycled materials in mineral wool) and O61 (energy use) are based on

[1] https://www.eea.europa.eu/en/topics/in-depth/resource-use-and-materials, visited 13 september,

information in reports, EPDs and dialog with stakeholders from the mineral wool industry. We are aware that the proposed requirements limits are very strict and therefore we appreciate any comments that can help us to set a realistic and yet ambiguous requirement for the future. See our comments under the specific requirements.

Dynea
Vi anbefaler Nordisk Miljømerking å endre flere av kriteriene i dokumentet. Dynea ga innspill ved forrige revisjon og ettersom vi fremdeles ikke støtter kriteriene har vi følgende innspill: se under spesifikke krav.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. See our comments under specific requirements.

Federation of the Finnish Woodworking Industries
In general, our comments are made together with Metsä Wood, so their consultation comment is one we also support fully. In addition to that we hope that the whole criteria would be more clear and precise in terminology and expressions, since there are a lot of unclear ones, for example O30, see comments under O30.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. See our comments under O30.

Unilin Panels
General remarks:

- Cradle2Cradle is a widespread Durability product & Process label which covers many of the topics that are taken up in the Nordic Ecolabelling Guideline, is there a specific reason that for some of the requirements having a Cradle2Cradle certificate can be used as compliance check?
- The way requirements on emissions of formaldehyde or VOC are defined are not in line with the philosophy of assuring a good indoor air quality of the end product in his end application, raw materials which are semi-finished get a totally different emission behaviour after finishing the boards.
- The formaldehyde and VOC emission chapters like described today would lead to a total ban of raw particleboards and MDF boards because limits described are unrealistic.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. C2C are based on a generic product standard with the possibility of four certification levels (Bronze to Platinum). This means that it is difficult to compare requirements in C2C and Nordic Ecolabelling directly. However, some of the documentation behind a C2C certificate can possible be used as documentation for Nordic Swan Ecolabel.
Due to the uncertainty of new EU regulation on emission of formaldehyde the proposed requirement was unclear formulated. The same applies to type of panels covered by the VOC requirement. See our comments under specific requirement for formaldehyde and VOC.

SVEFF

Föroreningar

SVEFF stöder tanken på att föroreningar ska kunna finnas i de produkter som ingår i en svanenmärkt produkt och att dessa får finnas i halter av upp till 1 000 ppm.

Svanens dokumenthantering:

Svanens portal för hantering av dokumentation bör utvecklas så att licensinnehavare kan ladda upp sin dokumentation och följa ärendet i portalen. Det skulle spara mycket administration och resurser om licensinnehavaren kan följa ärendet via sin inloggning och t.ex. se vilken dokumentation som har skickats in senast och eventuella kommentarer från handläggare. Idag sköts mycket kommunikation per mail vilket gör det svårt att följa ett specifikt ärende och dess dokumentation.

Sid 4, 1:a stycket

SVEFF ifrågasätter påståendet att svanmärkta paneler och lister skulle ha en reducerad miljö- och klimatpåverkan. Jämfört med vad och hur har svanen kommit fram till detta påstående? Med tanke på Eus arbete med ”gröna påståenden” och hur dessa ska verifieras är det viktigt att även Svanens påståenden stämmer.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments and support of definition of impurities in chemical products. Nordic Ecolabelling has developed a new digital application portal which is intended to handle all dialog and documentation with applicants. As the system is new to us, we are aware of the need of several adjustments to improve the user interface. The claim that; “Nordic Swan Ecolabelled panels and mouldings for interior use have a reduced environmental and climate impact throughout their lifecycle” is based on an internal assessment (MECO and RPS analysis, see more specific info in the background document). The assessment is e.g., based on relevant life cycle assessments. For each product group, this tool is used for setting the requirements with the greatest positive environmental change in the life cycle. We are aware of the new EU legislation and is in dialog with the commission/relevant stakeholder to fully understand the meaning and the type 1 ecolabels roll in regard to the legislation.

4.2 Definition of the product group

4.2.1 What can carry the Nordic Swan Ecolabel?

Miljøministeriet
Tekststykke: “A maximum of 10 % by weight of the panel or moulding may consist of materials that are not required by the criteria”
Nordisk Miljømærkning bedes under-og udbygge bagatelgrænsen på 10 %, som umiddelbart er forklaringen (side 15, sidste afsnit).

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. The text has been moved up under "what can carry the Nordic Swan Ecolabel" with additional information as requested.

Dynea
Vi støtter utvidelse av kriteriene til å gjelde CLT og bjelker, men vi gjør oppmerksom på at dette er produkter som har betydelig krav til styrke og skal være godkjente for bruken.

Godkjenningsprosessene er lange ca. 2-3 år og dette er ikke systemer som kan endres raskt. Det er få alternativene for disse produktgruppene.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. Requirement O2 (quality and properties) says that all products covered by EU/305/2011 must document the features and functions with which the product is marketed. CLT (EN 16351) is part of the harmonized EU regulation.

Metsä Wood
What is meant by Classes 1, 2 and 3 of EN 13986? There is no such general product class in the standard. There are technical classes for different panel types and also there are bonding quality/internal bond classes. There are also mentioned general classes: use classes (EN 335) and service classes (EN 1995-1-1). Technical classes for different panel types are defined based on different requirements (more info in EN 13986 Annex A). Bonding quality/internal bond classes only indicate the weather resistance of the gluing, not the panel. We assume the suitable classes here would be either use classes or service classes. We propose to clarify, for example 'Panels made from renewable raw materials according to EN 13986, panels intended for use in service class 1 and 2 (EN 1995-1-1)'.

1.1 Definitions:
Text should be edited.
Example of wood-based panels according to EN 13986:
Particleboard
MDF (Medium Density Fibreboard)
HDF (High Density Fibreboard)
MFB (Melamine Faced Board)
Plywood
OSB (Oriented Stranded Board)
Flaxboard
LVL (Laminated Veneer Lumber), Structural LVL is CE marked according to EN 14374
SWP (Solid Wood Panel), ~~Kerto LVL products are CE marked according to standard EN 14374~~.
Cement bonded particleboard

Kerto LVL is a registered brand of Metsä Wood. Reference should be Structural LVL. Is structural LVL excluded or included in the scope? If it is included, it should not be under wood-based panels but as a separate box and limited only to LVL products with crosswise veneers (type LVL-C) because the title of the criteria is for panel products.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you and agrees with your comments. EN 13986 is now referring to "panels intended for use in service class 1 and 2 (EN 1995-1-1)" and reference are made to Structural LVL and not Kerto LVL.

4.2.2 What is required to be Nordic Swan Ecolabelled?

Unilin Panels
Definitions:

- The definition of Pre-consumer recycled materials from Nordic Ecolabelling which allows reprocessed internal scrap (for ex. Grinded) to be called Pre-consumer recycled material. Notified Bodies from FSC and PEFC do not allow us to call this PRE-consumer materials.
    - Why is this done? I would assume that the interpretation should be similar.
    - Reason for my question:
        - as Unilin Panels we are currently reprocessing (with an on-site separated process) our internal scrap and or using it as an input in the same production process as it originally came from, in terms of FSC and PEFC this raw material flow is not accepted as PRE-consumer and though we cannot claim any recycled content percentage. When we follow the Nordic Ecolabelling definition, we would be able to claim this. Though it would be very positive for us to follow the Nordic Ecolabelling definition it certainly will lead to confusion with the FSC/PEFC labels as also for the Sustainability reporting where ISO 14021 definition should be followed.
        - If this proposal is followed companies that have 30% of internal scrap an on-site an re-use this in same process would be able to claim 30% recycled materials without using any external recycled materials.
- Nordic Ecolabelling:
  Nordic Eclabelleling defines: "rework, regrind or scrap, that cannot be recycled directly in the same process, but requires a reprocessing (e.g., sorting, reclamation, and granulation) before in can be recycled, to be pre-consumer/commercial material. This is whether it is produced in-house or externally".
- ISO 14021:
  Pre-consumer material: Material diverted from the waste stream during a manufacturing process. Excluding is reutilization of materials such as rework, regrind or scrap generated in a process and capable of being reclaimed within the same process that generated it.
- FSC:
  Pre-consumer material: Material that is reclaimed from a process of secondary manufacture or further downstream industry, in which the material has not been intentionally produced, is unfit for end use and not capable of being re-used onsite in the same manufacturing process that generated it. Source FSC-STD-40-004 V2-1
- PEFC:
  Takes over ISO 14001 definition.

Comments from Nordic Ecolabelling
Nordic Ecolabelling (NE) thanks you for your comments. NE follows the definition of pre- and post-consumer material according to ISO 14021. The text has been adjusted to clarify this.

4.3 Comments to the individual requirements

4.3.1 Product information

O1 Description of the product

No comments received.

4.3.2 Quality

O2 Quality and properties

Akustikmiljö
Kravet för ljudabsorption är inga konstigheter, dock klarar vi inte kravet i O2 idag, enligt nedan. Bedömer även att det skulle vara ett omfattande arbete vi skulle behöva göra för att efterleva det. Vi diskuterade här om en möjlighet skulle vara att produkter som används för ”inredning” ev kunde vara undantagna från ett krav likt nedan (alt ha andra krav gällande kvalitet) och kanske endast gälla för varor som används som ”byggmaterial” (där det ev bör vara högre krav och där CE märkning är mer vanligt?).

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. We are aware that acoustic panels or -tiles designed to be hung on the wall are not covered by the Construction Product Regulation (EU/305/2011) or an ETA. This means that the third alternative (third-party verification of the products performance) is an alternative.

O3 Acoustic panels, acoustic performance

Akustikmiljö
Verkar rimligt, inga övriga kommentarer

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for supporting the requirement.

Knuaf
Vi mener ikke, at lydabsorptionsklasse er relevant for svanemærkning af akustiske plader og bør derfor tages ud af det nye kriteriesæt. Den akustiske oplevelse i et rum vil altid være afhængig af et lokales form og anvendelse. En A- eller B-absorbent er derfor ikke altid bedre end en C- eller D-absorbent, i det en høj absorptionsværdi ikke er afgørende for pladens funktion i rummet. Jævnfør Statens Byggeforskningsinstitut SBI-anvisning fra 2018: Lydforhold i undervisnings- og daginstitutionsbygninger, Lydbestemmelser og Anbefalinger, henvises til måling af efterklangstider og grænseværdier herfor for optimal akustisk design[2].

[2] Statens Byggeforskningsinstitut, SBI-anvisning 218, Lydforhold i undervisnings- og

F.eks. vil koncertlokaler eller kirkerum skulle have en relativ lang efterklangstid for at få den nødvendige oplevelse af rummet. Ligeledes bør man være forsigtig med at have en for stor lydabsorption i undervisningslokaler på én enkelt overflade (f.eks. loftflade), idet dette kan medføre en lav STI værdi – altså en dårligere taleforståelse i rummet.

Forskellige lokaler kræver forskellige lydmiljø / efterklangstid afhængig af lokalets funktion. Absorptionsklasse bør derfor ikke være afgørende for om et produkt kan opnå svanemærkning. Det svarer lidt til at sige, at det kun er lyskilder med minimum 2000 lumen, som kan opnå svanemærkning.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. We agree that there are several other properties than sound absorption relevant for acoustic panels especially when it comes to rooms with special needs. Therefore, acoustic panels which are marked with an alternative primarily acoustic features a purpose such as specific frequency tuning or reverberation time for use in e.g., sound studios, concert halls, theatres, cinemas, conference room and classroom does not need to achieve sound absorption class A or B, but the sound absorption class must be stated.

Euro Gypsum
Firstly, **we do not believe** the sound absorption class is **relevant** for an environmental certification of an acoustic panel and should be removed completely from the new criteria.
Secondly, the absorption class of a product is **not the only relevant parameter** to look at in acoustic design. The SBI Instruction from the Danish Building Research Institute emphasises reverberation time to be the most important parameter in acoustic design in educational and daycare buildings.
The total acoustic experience of a room depends on the shape and use of a room. In educational buildings, too much sound absorption from the ceiling surface may lead to a low STI value – i.e. poorer speech understanding in the room.
Therefore, an A or B absorbent is not always better than C or D absorbents, as high absorption value is not decisive of the panels function in the room.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. See above comments to Knauf.

Rockfon
Reasonable levels/requirements as long as we talk sound absorption as main purpose. However, more sophisticated acoustic room design might also require other products with alternative acoustic features as (semi)reflection, specific frequency tuning (e.g. low tone absorption for increased speech intelligibility) or sound insulating properties that does not yield class A or B in the ISO354/SIO11654. Maybe an exception to class A or B requirement should be left open for such products

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. See above comments to Knauf.

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daginstitutionsbygninger Lydbestemmelser og anbefalinger, 1. udgave 2008

4.3.3 Raw materials

O4 Tree species – restrictions

Miljøministeriet
Miljøministeriet bemærker, at Nordisk Miljømærkning ikke har fuld tillid til FSC's og PEFC's retningslinjer for bæredygtig skovdrift, når der føres en liste med træarter, der ikke tillades i Svanemærket (http://www.nordic-ecolabel.org/wood/).

Miljøministeriet kan bifalde behovet for, at Nordisk Miljømærkning som frivilligt mærke går længere end lovgivningen i begrænsningen af træarter, der kan anvendes, Miljøministeriet bemærker alligevel, at når Svanemærket kan anvende FSC og PEFC til at definere og dokumentere bæredygtig skovdrift, så kunne man også vælge at have tillid til at lade FSC og PEFC definere, hvilke træarter, der kan opnå et certifikat fra de to organer.

Når Nordisk Miljømærkning alligevel vælger at indsnævre feltet af træarter, så bør det til gengæld også ske på objektive kriterier, og her finder Miljøministeriet og Miljøstyrelsen det problematisk, at Nordisk Miljømærkning vælger en fremgangsmåde alene baseret på The Rainforest Foundation, som meget ensidigt udelukker tropiske træarter.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. The requirement for restricted tree species were reviewed in 2019 and approved by the Nordic Ecolabelling board in 2020. The new 2020-requirement makes it possible to use tropical tree species on the list if certain requirements are met.

O5 Traceability and certification

Miljøministeriet
Umiddelbart ligner det, at der er en gentagelse af teksten (se de to tekststykker som er med **fed**), og teksten kan give anledning til tvivl om, hvilke procenter, der gælder og hvornår: ”
For particleboards:
• *A minimum of 70% by weight/volume of the wood raw material, bamboo and cork used in the Nordic Swan Ecolabelled product must come from forests that are managed in accordance with sustainable forestry management principles established by FSC and PEFC and/or be recycled raw material* and*
• a minimum of 50% of the wood raw material in Nordic Swan Ecolabelled particleboard must consist of post consumed recycled raw material.

For particleboard, a minimum of 50% of the wood raw material in Nordic Swan Ecolabelled particleboard must consist of post consumed recycled raw material.

Er det rigtigt forstået, at kravet som anført for spånplader (med minimum 50 % genanvendt træ/indhold) **kan læses som/betyder**, at *resten* (op til 50 %) kan nøjes med at være **FSC/PEFC kontrolleret indhold**.

Det vil i så fald ikke leve op til det krav som den offentliges sektor skal følge ved indkøb af træ/træbaserede produkter i Danmark, og vil være en udfordring for det

offentliges indkøb med udgangspunkt i et indkøbscirkulære om indkøb af miljømærkede gulve.

Det er uklart, fordi det står i afsnittet, hvor der lige over står et krav om 70 % certificeret træ og/eller genanvendt træ.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. We agree that the requirement is unclear formulated and therefore has been adjusted. The idea is still to have a requirement for minimum share of recycled materials in particle boards simultaneously with complying with Danish regulation for public consumption of wood.

Due to dialog with stakeholder and other consultation comments the requirement for minimum share of recycled materials in particle boards has been adjusted from minimum 50% post-consumer recycled materials to 50% recycled materials. Particle boards also still need to comply with the common forestry requirements.

Forestia AS

- *a minimum of 50% of the wood raw material in Nordic Swan Ecolabelled particleboard must consist of post consumed recycled raw material*.*

Dette kravet er det ikke mulig å klare

Det finnes ikke rent nok materiale fra returtre som kan brukes i sponplater uten at materialet har blitt renset i et eget renseanlegg. Vi har fått prøveforsendelser fra flere gjenvinningsselskaper, men det gjenvinningsselskapene anser som rent er ikke forsvarlig for oss å bruke. Grunnen er metaller og plast som er direkte brann- og eksplosjonsfarlig i vårt anlegg. Sponplateprodusenter i Europa som bruker returtre i sine produkter har slike renseanlegg tilknyttet sine fabrikker.

Dette kravet gjør at det ikke blir mulig å svanemerke sponplater for produsenter som ikke har eget renseanlegg for returtre tilknyttet sin fabrikk.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. See above comments to Miljøministeriet.

Unilin Panels

- Why only requirements for particleboards and not for MDF?
- How tot proof the 50% of POST consumer inputs? Is this a self-declaration or is there a certification scheme that should be used?

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. In part one of the consultation (oct-dec 2023) MDF were part of the proposal for minimum recycled materials. However, commends/dialog with stakeholders indicated that such a requirement is not yet possible for MDF panels. Due to comments in this part 2 of the consultation the proposed requirement for particle boards has been adjusted to from minimum 50% post-consumer recycled materials to 50% recycled materials. Wood based panels still needs to be covered by valid FSC/PEFC CoC certificate and minimum 70% of the wood raw materials must come from forest certified FSC/PEFC managed forest or be

recycled materials. The remaining proportion of wood must be covered by FSC/PEFCs control schemes (controlled wood/controlled sources) or be recycled materials. This may, applicants of Ecolabelled panels have the flexibility to use either virgin or recycled materials.

O6 Chemicals – recycled material in wood-based panels

Unilin Panels

- Why putting limits on raw materials used for board products and not on the end product which is certified? During raw board process in the cleaning process of raw recycled materials also "chemical cleaning" can be done, which means that content of some substances can be higher than the limit as raw material but lower than the limit in the certified end product. Would be more logic to put limits on the final product, like this is done for Formaldehyde and VOC emissions.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. The requirement is based on the European Panel Federation standard and recommendation for delivery conditions of recycled wood. The largest possible source of heavy metals or halogenated organic compounds is the recycled wood raw materials. We are not familiar with panel manufactures testing the final product for these substances/compounds.

O7 Lignocellulose raw materials (other than wood)

No comments received.

Paper and cellulose fibre

O8 Ecolabelled paper

No comments received.

O9 Tree species – restrictions (pulp and paper)

No comments received.

O10 Traceability and certification of wood raw materials (pulp and paper)

Unilin Panels

- Not all manufacturers of uni color and printed papers (for melamine facing) or KRAFT papers (for HPL) are able to supply FSC CoC an/or PEFC CoC, but all are able to supply FSC Controlled Wood, wouldn't it be more logic to take up FSC controlled Wood as accepted and put a 100% FSC CoC or FSC CoC claim requirement on the end product (the wood based panels finished with HPL or melamine cover) instead of the base paper?

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. The use of FSC/PEFC CoC certification is widely used in the pulp and paper industry and a requirement if a company wishes to claim FSC/PEFC content – this also applies to any claim of FSC controlled wood. The requirement for min. 70% certified raw materials from forest managed in accordance with FSC/PEFC forest management principles (or be recycled materials) are aligned with the requirement set for public procurement in e.g., Denmark.

O11 Chemicals in the manufacture of pulp and paper

No comments received.

O12 COD emissions from the production of paper and pulp

No comments received.

Textile/fabric

O13 Ecolabelled textile

No comments received.

O14 Cotton, other natural seed fibres of cellulose or wool

No comments received.

O15 Recycled fibres: Synthetic fibres

Akustikmiljö
Krav O15 om 100% återvunnet material vid användning av syntetfiber blir svår att uppnå i våran typ av produkt och process. I tillverkningsprocessen används två typer av polyesterfiber i akustikplattorna; en solid (som är 100% återvunnen polyester) den andra fibern, en bikomponentfiber består av ett skal och en kärna, som båda är polyester. Kärnan och skalet har olika smältpunkter, skalet smälter vid lägre temperatur just för att kunna binda med den solida fibern. Det finns idag inga bikomponentfiber på marknaden i 100% återvunnet material. I de tester man gjort hittills med 100% återvunnen polyester (i kärna och skal) får den färdiga produkten inte tillräcklig stabilitet, det innebär att applikationer som hänger från tak eller som används i takplattor t ex skulle böja sig och bukta.

Vi känner inte till någon i branschen som gör liknande produkter i 100% återvunnet syntetmaterial, om det hävdas bör det ifrågasättas med tanke på ovan information.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. Dialog with stakeholders show as you point out difficulties in a requirement for min 100% recycled materials. The requirement has been changed to minimum 50% post-consumer recycled materials.

O16 Recycled fibres - test for harmful substances

No comments received.

Plastic

O17 Recycled plastic

Miljøministeriet
Kommentar til tekststykket:
"100 wt% of the plastic in the panel or moulding must consist of recycled plastic. The recycled plastic must not contain:*

- *recycled plastic form plants that are EFSA** or FDA*** approved as food contact material or marketed as compatible with these.*
- *recycled plastic must not be PVC or PVDC. ……*

Description and documentation from manufacturers of recycled raw materials showing that the plastic is recycled in compliance with the requirement's definition or has Global Recycled Standard certification or EuCertPlast certification, showing that the raw materials are recycled, or other equivalent certification approved by Nordic Ecolabelling. "

Det er uklart, hvordan Nordisk Miljømærkning skelner mellem de forskellige fraktioner af genanvendeligt plast i forhold til om det er pre-consumer såvel som post-consumer recycled material kommer fra unødigt spild.
Som udgangspunkt mener Miljøministeriet at der skal være fokus på højt indhold af post-consumer materiale.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. When it comes to the definition of recycled materials, we are referring to the definitions in EN14021. The requirement has been changed to at least 50% wt% recycled plastic which of 20% must be post-consumer recycled materials. The requirement is identically to similar requirement in criteria for Nordic Swan Ecolabelled furniture.

O18 Chemicals in recycled plastics

Miljøministeriet
Polyaromatiske hydrokarboner (PAH), er tidligere er fundet i produkter af genanvendt plast og er også i Miljøstyrelsens undersøgelse, *Indledende sikkerhedsvurdering af genanvendt plast til emballering af kosmetiske produkter, Juli 2021*, identificeret i relativt høje mængder i PCR plastik (PE og PP). Det bør derfor overvejes, om PAH bør tilføjes listen over stoffer, som genanvendt plastik ikke må indeholde.

Miljøministeriet finder det ikke realistisk med et forbud mod PAH'er, men Nordisk Miljømærkning bør have opmærksomhed på PAH'er i genanvendt plast, og at det bør undersøges hvilke konsekvenser det vil have, hvis der sættes krav til disse stoffer i genanvendt plast.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. The requirement has been changed. 8 specific polycyclic aromatic hydrocarbons (PAH) have been added the requirement. All 8 PAHs is listed in annex XVII in REACH due to concern risks to human health.

O19 Additives - prohibited substances

No comments received.

O20 Manufacture of ESP, XPS, PIR and Polyurethane (PU)

No comments received.

Wood-plastic composite material (WPC)

O21 Wood fibre and plastic

Recoma
O21 a) vår produkt innehåller en mindre mängd plast per kvadratmeter och en liten del av denna kan vara pre-consumer recycled. Hade gärna sett att kravet specificerar att t.ex. 95% post-consumer. Vi lägger en återvunnen plastfilm på ytan och är inte alltid säkra kring ursprunget på deras ”råmaterial”.

O21 b) våra leverantörer garanterar en viss kvalitet/renhet men både människor och robotar gör ibland misstag så det kan komma med kompositer som innehåller andra typer av plast, ibland fragment av PET. Skulle även här vilja se en viss öppning för misstag i sortering, t.ex. högst 5% av PVC, PVDC, PET.

O21 c) en av våra leverantörer förser oss med spill från produktion/testlinje. Detta material som har samma utmaningar vad gäller återvinning (vi kan rädda det från förbränning och korta transporter. Detta har dock ej varit hos konsumenter och vi ser stora fördelar med detta samarbete. För att inte förlora chanserna till svanenmärkning här så skulle vi vilja se en något lägre gräns, t.ex. att 100% ska vara recycled men endast 50-70% behöver vara post-consumer.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. Based on consultation comments the requirements have been changed to only include material based on recycled composite. This means that the recycled material must already be a composite material, it is not allowed to mix pure fractions of different materials, e.g., wood and plastic. The requirement level for recycled material has also been changed, the material must consist of 100% by weight of recycled material and 50% by weight must be post-consumer recycled. This is still a strict requirement level, and the recycled material is being used in a product with a long technical lifetime.

Miljøministeriet
Miljøministeriet er meget skeptisk over for muligheden for at anvende WPC i et miljømærket produkt, og mangler miljøfaglige argumenter og dokumentation for, hvorfor det er miljømæssigt fordelagtigt.

Nordisk Miljømærkning bør dokumentere miljøpotentialet, hvis der åbnes for brugen af kompositmateriale i svanemærkede indendørs byggeplader og lister.

Ligeså bør erfaringer mht. tilbagelevering af spild fra produktgruppen Udendørsmøbler og legepladser kvalificeres såvel som kvantificeres, og ikke mindst bør der ses på de kvalitetsmæssige forhold om WPC-produkter. Holder produkterne længe, og opretholdes kvaliteten gennem produktets levetid.

Yderligere er der ikke erfaring med sorteringen af WPC-produkter på genbrugspladser og om de skaber problemer i affaldsleddet, hvis de fx lægges i containeren til hård plast eller brugt træ, fremfor til brændbart affald, fordi WPC med den nuværende viden ikke kan genanvendes.

Miljøministeriet stiller sig derfor særdeles kritisk over for brugen af WPC-kompositmaterialer i svanemærkede byggeplader og lister til indendørs brug på

grund af kompositmaterialers praktiske muligheder og lille potentiale for at blive genanvendt.

For produktgruppen Udendørsmøbler og legepladser kan der derimod være miljømæssige argumenter, da materialet ikke behøver tilsat og løbende vedligehold med træbeskyttelsesmidler og maling. Det er sådanne erfaringer, der bør samles op på, før WPC kan anvendes i andre svanemærkede produkter.

Endelig er der et ikke belyst forhold om indeklima ved brug af WPC i produkter til indendørs brug. Hvor rene fraktioner er træ-, hhv. plastfraktionen i WPC og giver det anledning til migration af farlige kemikalier under brug.

Fødevaregodkendt materiale:
Da rPET specifik er nævnt og udelukket, er langt den største del af plasten fødevarematerialegodkendt. Miljøministeriet foreslår alligevel, at det også præciseres, at der ikke må indgå fødevaregodkendt plast (EFSA-og FDA-godkendt) i WPC-produktet.

Umiddelbar stilles der ikke de samme krav til indholdet af farlige kemikalier i WPC, som i øvrige kriterier for recirkuleret træ.

Miljøministeriet mener, at der bør gælde de samme krav til kemikalier i WPC som til enkeltmaterialerne, dvs. for træ: O6 for træ og for plast: 018.

Miljøministeriet er enig i, at kun post-consumer materiale skal kunne indgå i WPC.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. The intention behind the requirement was not to introduce "traditional WPC, known from outdoor furniture/decking" into the criteria. The intention was that only recycled material that is already a composite material should be included in the criteria. Materials that are produced by mixing pure fractions of different materials, e.g., wood and plastic, should not be covered by the criteria, as this produced composite material is difficult to recycle/separate in the recycling process.

Composite materials as e.g., composite packaging can be a difficult material to recycle since it consists of different materials. The materials are normally sent to incineration. By manufacturing a panel from the recycled composite material, the material gets a new area of use (panel) with long technical lifetime (up to 30 years[3]). The name of the requirement has been changed to "Recycled composite" and the requirement is now saying that the composite material must consist of 100% by weight of recycled materials of which at least 50% must be post-consumer recycled materials. New requirement has also been introduced to chemicals in recycled composite.

O22 Additives - prohibited substances

No comments received.

[3] https://se.recoma.com/product/basic-byggskiva, visited september 2023

O23 Material recovery in WPC

Miljøministeriet

WPC-producenterne skal beskrive, hvordan deres retur system skal fungere for spild fra byggeriet. Dermed er der også et etablereret retursystem fra start af. Derfor bør Nordisk Miljømærkning overveje at gøre en sådan returordning obligatorisk.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. The requirement has been removed, as it is also part of requirement O68 take back system. Manufactures of panels must either a) offer a system for taking back products or b) be in a process/test/pilot to establish a system for taking back products. This means that manufactures of panels made from recycled composite recycled materials need to document either part a) or part b).

Mineral raw materials

O24 Responsible sourcing of virgin mineral raw materials

Euro Gypsum
The European gypsum industry is particularly committed to the responsible sourcing of raw materials and therefore considers that these provisions are **acceptable**.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your support for the new requirement.

O25 Heavy metals

EuroGypsum
According to the gypsum industry specifications, a number of the reference values for heavy metal concentrations in gypsum from natural origin or flue gas desulphurisation (FGD) substantially differ from the proposed draft Nordic Swan criteria, notably for **lead** (56 mg/kg), **cadmium** (1.6 mg/kg) and **mercury** (1.4 mg/kg).

The gypsum industry has established values based on findings in natural and FGD gypsum, which are **used as a benchmark** to compare with actual measurements. It is important to note that those values, derived from the Beckert[4] study, are widely recognised as **reference values** for heavy metal concentrations in FGD and natural gypsum. However, they do not represent the concentrations above which a human health risk occurs.

Therefore, in the absence of "risk-based threshold values", we would advise **against setting strict thresholds** in the Nordic Swan criteria, which would not be scientifically sound.

The safety of the products is guaranteed by the producers via the REACH registration. The responsibility for the product safety is part of the product

[4] BECKERT J., 1990. Comparison of natural gypsum and FGD gypsum: studies for a comparative assessment of the health impact of natural gypsum and FGD gypsum from coal-fired power plants with a view to their use in the manufacture of building materials.

declaration, which must be amended with new findings regarding health, safety and environment (HSE). Consequently, it is always aligned with the latest regulations and findings.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. We agree, and the values for lead, cadmium and mercury has been adjusted.

O26 Recycled gypsum plasterboard

Euro Gypsum
The gypsum industry is constantly striving to minimise waste, increase the lifespan of products and buildings, and reuse products.
Plasterboards are manufactured in standardised sizes to reduce production waste as well as construction waste.

While the **technical feasibility** of integrating 30% of recycled content in new plasterboard has been demonstrated in the "Gypsum to Gypsum" Life+ project in 2015[5], and such levels of recycled content are actually reached in the production of specific boards, this 30% target is too ambitious for our sector at large and may cause distortions of competition, due to the **limited availability of recycled gypsum waste on the markets** and the competing use of such waste by other, non-closed loop, applications, such as in the cement manufacturing or agriculture. Incorporation targets may be considered in the longer term, but they will always depend on the availability of quality recycled gypsum waste.

We would therefore warn against the unforeseen negative consequences of imposing such thresholds on fair competition among economic actors, as long as the quantities of available gypsum waste are not sufficient.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. Nordic Ecolabelling agrees that the availability of recycled gypsum from demolition/construction/FDG gypsum differs between the European countries. The requirement has therefore been adjusted so the minimum 30% recycled gypsum also includes FDG gypsum. A new additional requirement for minimum 10% recycled gypsum from demolition/construction (not FDG) has been introduced as this recycled fraction represents the circular economy potential.

Mineral wool

O27 Recycled mineral wool

Saint Gobain
Et krav om 85% genanvendt materiale i glasuld kan, efter bedste overbevisning, ikke opretholdes af nogen mineraluldsproducenter. Kravet bør sænkes til max. 70% som er noget at det bedste på markedet i dag. Derudover er det ikke specificeret hvorvidt det kun gælder post-consumer materiale. Hvis dette er tilfældet, så bør kravet sænkes yderligere.

[5] https://eurogypsum.org/circularity/

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. We agree that the proposed requirement for min 85% recycled material in glass wool is too ambiguous and the level has therefore been lowered to min. 70%. The 70% includes both pre- and post-consumer recycled material according to definition in ISO 14021.

Paroc Group Oy
Även om stenull framställs av natursten, en råvara som är naturlig och en praktiskt taget outsinlig naturresurs, måste vi använda vår planets resurser optimalt. Vi gör det på flera olika sätt, både i egen tillverkningsprocess och när vi tillhandahåller tjänster som stöder återvinning av våra produkter. Stenull är väl lämpat för återvinning och kan återvinnas gång på gång för att framställa ny stenull.

Återvinningspotentialen är stor, både för spill från byggprojekt och för rivningsavfall. Det finns dock en övre gräns för hur mycket återvunnen råvara som kan blandas in i produkten utan att kvaliteten påverkas. En annan central aspekt är att det finns en begränsad mängd mineralullsavfall som är tillgängligt på marknaden för inblandning vid produktion av ny isolering. Det är därför kontraproduktivt att ställa så höga krav på andel återvunnen mineralull.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. The proposed requirement for min 45% recycled materials is based on dialog with stakeholders and EPDs. It is okey to use both pre- and post-consumer recycled materials in the share of 45% recycled material.

Rockfon
Q27: reasonable level and reasonable to include even inhouse 'rework, regrind or scrap'. The ISO-14021 standard is disputed on EU-level and in various national context as might not being the right to best promote increased circularity. Internal (pre-consumer) recycling might be the most reasonable way thus avoiding transportation and economic transactions. The challenge is the risk that mere 'double production/processing' might suddenly count as 100% recycled material.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comment and support of proposed requirement. Documentation/verification of the requirement need to account for the share of recycled material. Double accounting is off cause not allowed.

O28 Additives - prohibited substances

No comments received.

Metal - aluminium

O29 Production of aluminium

No comments received.

4.3.4 Chemicals

Chemicals used in the production of panels

O30 Classification of chemical products

Federation of the Finnish Woodworking Industries
Chemical products used in the production of the Nordic Swan Ecolabelled product must not be classified in accordance with the table below.?

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. There is a table in requirement O30 showing a list of Hazard statements, -class/category and -codes in accordance with CLP regulation 1272/2008.

O31 Classification of ingoing substances

Dynea
Vi er fornøyde med at det er gjort unntak for melamin.
Vi mener fremdeles prinsipielt at dere bør vurdere relevansen av å legge så strenge krav på inngående råvarer, i de tilfellene disse reagerer til helt andre forbindelser i ett eller flere trinn før artiklene skal svanemerkes

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. Nordic Ecolabelling has a strict policy when it comes to CMR classified ingoing substances or endocrine disrupters for human health or for the environment. Only if there are no alternatives exemptions applies which is the case for melamine.

O32 Prohibited substances

SVEFF
Svanen hänvisar till projektet ”EDlists” (https://edlists.org/) för att förbjuda vissa hormonstörande ämnen. För det första är detta inte ett officiellt projekt med koppling till EUs lagstiftande församlingar, utan ett separat projekt med ett mål som lyder: *”The aim of this website is to primarily inform stakeholders about the current status of substances identified as endocrine disruptors (EDs), or under evaluation for endocrine disrupting properties within the EU.”*

För det andra är EDlist II inte en lista över konstaterat hormonstörande ämnen och lista III är inte heller något som EU står bakom då denna bara listar olika länders uppfattning om ämnens eventuella hormonstörande ämnen. EDlists.org konstaterar att lista III: ” *have not been scrutinised for credibility by other member states in accordance with procedures laid down in different pieces of EU regulation*.” Vi anser inte att det är lämpligt att Svanen hänvisar till källor utan bevisad kredibilitet.

SVEFF anser att Svanen i en så svår fråga som hormonstörande ämnen endast bör hänvisa till officiella klassificeringar och information från EU om dessa. Förslaget är att för de ämnen som EU redan idag konstaterat har hormonstörande egenskaper bör Svanen hänvisa direkt till officiell lagstiftning/klassificering.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. As an official type 1 ecolabel it is important that we set relevant requirements that goes further than the legislation and

apply the precautionary principle when it comes to ED that is under investigation by EU or any national authorities.

O33 Antibacterial substances

No comments received.

O34 Nanomaterials

Kiilto Oy
Nanomaterials added to the chemical product are forbidden, but you have excepted synthetic amorphous silica that is non-modified. It would be nice to have more accurate specification for this, what is considered as non-modified amorphous silica.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. Synthetic amorphous silica (SAS) is an intentionally manufactured silicon dioxide (SiO2) form that has been used in industrial, consumer and pharmaceutical products for decades. SAS is a nanomaterial, under the European Commission definition[6] and is exempted from the requirement due to a lack of alternative substances.

O35 Preservatives

No comments received.

O36 Volatile organic compounds in adhesives

Dynea
Kravene for innhold i lim (O36) akseptable

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments.

O37 Free formaldehyde

No comments received.

Surface treatment

O38 Plastic foiling

No comments received.

O39 Classification of chemical products

SVEFF
Linoljefärger kommer i princip att bli förbjudna att använda då dessa alltid innehåller zinkoxid vilken är klassas som H411. SVEFF begär därför ett undantag för linoljefärger.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. NE is not familiar with linseed oil always contains zinc oxide and therefore no exemption has been added to the requirement.

6 COMMISSION RECOMMENDATION of 18 October 2011 on the definition of nanomaterial (2011/696/EU)

O40 UV curing surface treatment system

No comments received.

O41 Classification of ingoing substances

No comments received.

O42 Prohibited substances

SVEFF
Svanen hänvisar till projektet ”EDlists” (https://edlists.org/) för att förbjuda vissa hormonstörande ämnen. För det första är detta inte ett officiellt projekt med koppling till EUs lagstiftande församlingar, utan ett separat projekt med ett mål som lyder: *”The aim of this website is to primarily inform stakeholders about the current status of substances identified as endocrine disruptors (EDs), or under evaluation for endocrine disrupting properties within the EU.”*

För det andra är EDlist II inte en lista över konstaterat hormonstörande ämnen och lista III är inte heller något som EU står bakom då denna bara listar olika länders uppfattning om ämnens eventuella hormonstörande ämnen. EDlists.org konstaterar att lista III: ” *have not been scrutinised for credibility by other member states in accordance with procedures laid down in different pieces of EU regulation*.” Vi anser inte att det är lämpligt att Svanen hänvisar till källor utan bevisad kredibilitet.

SVEFF anser att Svanen i en så svår fråga som hormonstörande ämnen endast bör hänvisa till officiella klassificeringar och information från EU om dessa. Förslaget är att för de ämnen som EU redan idag konstaterat har hormonstörande egenskaper bör Svanen hänvisa direkt till officiell lagstiftning/klassificering.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. See responds under O32.

O43 Antibacterial substances

No comments received.

O44 Nanomaterials

No comments received.

O45 Preservatives

No comments received.

O46 Free formaldehyde

No comments received.

O47 Application method and quantity applied – surface treatment

No comments received.

O48 Quantity of applied volatile organic compounds (VOC)

No comments received.

4.3.5 Emissions

Emissions from the product

O49 Formaldehyde and VOC emissions

European Panel Federation (EPF)

The following Table summarizes the actual limits for the formaldehyde emission as valid in Europe for wood-based panels, including the new Nordic Swan limit proposal.

Table: Actual limits for the formaldehyde emission as in force in Europe for wood-based panels, including the new Nordic Swan limit proposal.

Regulation or proposal	Limit as measured by EN 717-1 or the text method as stated in EU2023/1464	Limit as measured by EN 16516	Recalculated limit to EN 717-1 (a)	Comments
E1 according to EN 312, EN 13986, EN 622-5, and EN 300	0.1 ppm		0.1 ppm	Still actual E1 limit in Europe except Germany, until this limit will be replaced by the new limit according to EU 2023/1464 (b)
Limit according to Chemikalien-Verbotsverordnung (ChemVerbotsV) (Chemicals Prohibition Ordinance) ("German E1") (c)		0.1 ppm	0.05 ppm	Calculated via the factor = 2 between EN 717-1 and EN 16516 as stated in Annex 1 of the Chemicals Prohibition Ordinance.
Limit according to EU 2023/1464	0.05 ppm or 0.62 mg/m³ (d)		0.05 ppm or 0.62 mg/m³	
RAC proposal (2020) (e)	0.04 ppm = 0.05 mg/m³		0.04 ppm = 0.05 mg/m³	
Nordic Swan proposal (f)		0.048 ppm (= 0.06 mg/m³)	0.024 ppm (= 0.03 mg/m³)	

(a) according to the factor 2 between test results for EN 16516 and EN 717-1 (Annex 1 in Announcement of analytical methods for sampling and investigations for the substances and substance groups, specified in Appendix 1 of the Chemicals Prohibition Ordinance of November 5, 2018; published on Monday November 26, 2018, BAnz AT 26.11.2018 B2)

(b) EU 2023/1464: European Union (EU). 2023. Commission Regulation (EU) 2023/1464 of 14 July 2023 amending Annex XVII to Regulation (EC) No 1907/2006 of the European Parliament and of the Council as regards formaldehyde and formaldehyde releasers, including an amended version of Annex XVII to Regulation (EC) No 1907/2006. https://eurlex. europa.eu/legal-content/EN/TXT/PDF/?uri¼CELEX:32023R1464&qid¼1689603343177.

(c) Bekanntmachung analytischer Verfahren für Probenahmen und Untersuchungen für die in Anlage 1 der Chemikalien-Verbotsverordnung genannten Stoffe und Stoffgruppen vom 5. November 2018; veröffentlicht am Montag, 26. November 2018; BAnz AT 26.11.2018 B2 (Announcement of analytical methods for sampling and investigations for the substances and substance groups specified in Appendix 1 of the

Chemicals Prohibition Ordinance of November 5, 2018; published on Monday November 26, 2018, BAnz AT 26.11.2018 B2)

(d) The test method as stated in EU 2023/1464 is very similar to EN 717-1, but *de jure* not identical; it is also not called EN 717-1. The REACH Restriction EU 2023/1464 does not use EN 16516 (or ISO 16000).

(e) RAC proposal (2020): Opinion of the Committee for Risk Assessment on an Annex XV dossier proposing restrictions of the manufacture, placing on the market or use of a substance within the EU, adopted 13 March 2020 ECHA/RAC/RES-O-0000006740-76-01/F. Not in force; this proposal was replaced by the new REACH Formaldehyde Restriction Regulation EU 2023/1464.

(f) The Nordic Swan proposal includes the test method EN 16516; former versions of Nordic Swan and the REACH Restriction use the test method EN717-1 (or a nearly identical method).

EN 717-1 and EN16516 differ significantly; testing the same board, EN 16516 gives an emission twice of the emission measured with EN 717-1.

The REACH Formaldehyde Restriction Regulation (EU 2023/1464) has undergone during it preparation the most thorough scientific evaluation process concerning formaldehyde emissions from products and presence of formaldehyde in indoor air that has ever been; its conclusions are the best and lowest practicable solution from both, health and socioeconomic point of view. In fact, the REACH restriction limit goes below most scientific lowest end points and therefore has a safety factor already added and as such a line can be drawn under the topic as there is no real reason to go lower.

Without further explanation of the necessity (such as a toxicological justification) for further tightening the emission limit as stated in the new REACH Restriction EU 2023/1464, Nordic Swan now proposes a new limit for raw wood-based panels, which is 50% lower than the REACH limit. This, however, is not performed by reducing the limit as such by the factor 2 (using the same test method for the emission), but it is performed in that way that the nominal value of the limit is identical with REACH, but another and much more stringent test method is proposed. This new test method EN 16516 gives the effect, that in fact the limit is reduced by the factor 2 when using the same test method as REACH does. The REACH Restriction, however, uses a test method, which is nearly identical with EN 717-1 (though it is not called EN 717-1). German authorities used the same procedure in 2020, when introducing “German E1” (see Table 1): the limit as number remained the same, but the test method was changed from EN 717-1 to EN 16516.

The new proposed limit for the emission limit of formaldehyde by Nordic Swan (June 2023) is the lowest limit ever in the history of wood-based panels. It will lead to the consequence that only a very limited and selected proportion of the produced wood-based panels in Europe will be able to fulfil this limit.

In addition, such a low emission limit is partly already critical for the naturally-born formaldehyde, which is formed during the production of wood-based panels, especially during drying of the wood material (particles, strands, fibres). This is the more important, as the only industrial production in bigger quantities of boards fulfilling the new Nordic Swan proposal is given for OSB, which more or less always used only virgin wood with high moisture content, in order to enable a quality-sufficient stranding process. The effect of naturally-born formaldehyde is well known and reported in scientific literature even since decades. The higher the starting

moisture content of the wood furnish before drying, and, hence, the higher the needed dryer temperature, the more chemical degradation of wood molecules and, consequently, formation of formaldehyde can take place. So far, this wood-derived formaldehyde was less a problem, because this wood-derived formaldehyde was still rather a smaller proportion compared to the total formaldehyde in the system, including the formaldehyde as part of the adhesive. However, the proposed limit of the Nordic Swan proposal is now so low, that even the amount of formaldehyde from the wood substance needs to be considered critically.

About security and probability of test results and statistically-based limits in order to securely fulfil the limit see further down. In fact, the "target emission to be on the safe side" in the praxis of daily industrial production will be in the range of 0.015 – 0.020 ppm, which is another 20 – 40% lower than the nominal limit. Looking on the well-known restricted accuracy (or better high variability) of chamber tests, this will not work.

Tests methods for the subsequent formaldehyde emission and their limitations, nominal limits, and test results in regular production

Talking about low emission also always needs to keep in mind that a nominal limit is only one aspect. With such a given nominal limit, the real target value of the emission for an industrial production must be significantly lower; according to general experience and based on statistical evaluation this reduction is at least 20%, in order to compensate for all variations, which can occur in any industrial production. Such variations are well known to each production manager and technologist. This includes variations from raw materials, in the process conditions, including even seasonal influential parameters when talking about wood properties relevant for use as raw material in the wood-based panels industry, i.e., the storage time of the wood between logging in the forest and use in the board production.

In addition, it must be considered, that, the lower the limit of emission, the variation inherent to the test method strongly increases. This also concerns the test method as such, which is not any more fully reliable at such low emission. The standard deviation of the test method (EN 16516) at low emission levels in the range of 0.03 – 0.05 ppm (with 0.05 ppm being the nominal limit, but 0.03 – 0.04 ppm being the range of actual test results to be followed in order to fulfil securely the nominal limit) is in the range of 20 – 30%. Such low target values, hence, are already close to or even identical with the limits of validity and reliability of the emission test methods.

Emission test results in the range of 0.03 – 0.04 ppm according to EN 16516, which is equal to 0.015 – 0.02 ppm according to EN 717-1, reflect emission values of dried wood material even without addition of any adhesive.

Under consideration of all known (and partly still only estimated) inconsistencies as well as not influenceable and not controllable variations (as outlined above) a target value for the daily industrial production has to be estimated in the range of 0.03 – 0.04 ppm according to EN 16516 or 0.015 – 0.02 ppm according to EN 717-1. The difference between the official limit and the target value is the bigger the lower the level of emission is. The detection limit for the chamber test procedure usually is indicated by various test institutes with 0.01 ppm; usually also the results of chamber tests are presented with 2 digits after the comma in steps of 0.01 ppm.

The lower the values to be measured, the greater the range of variation of the individual measurement results; a sufficient and statistically secured test of the products is not possible due to time constraints and the limited availability of test

facilities (test chambers). Extensive comparative tests at certified institutes have shown that the measurement inaccuracy is at least ± 0.01 ppm even in the best case.

TVOC

The new proposal of the Nordic Swan also requests a limitation of the "total volatile organic compound content" (TVOC). It is astonishing that still TVOC is used a toxicological criterion, though it was evidently shown that TVOC is not a toxicological parameter, because different compounds have different toxicological endpoints; it therefore is not suitable for health-related evaluation of indoor air quality and health related evaluation of products (Salthammer, T., TVOC-revisited. Environ. Int. 167 (2022) 107440). Nordic Swan defines the limit for TVOC according to EN 16516, measured after 28 days, with 0.16 mg/m³. This limit is only the sixth part of the limit as given by the so-called AgBB-scheme (Anforderungen an die Innenraumluftqualität in Gebäuden: Gesundheitliche Bewertung der Emissionen von flüchtigen organischen Verbindungen (VVOC, VOC und SVOC) aus Bauprodukten, 2021) (Indoor air quality requirements in buildings: Health assessment of emissions of volatile organic compounds (VVOC, VOC and SVOC) from building products; actual version June 2021).

For SVOC (most obviously this should mean TSVOC) the limit in the AgBB is 0.1 mg/m³ after 28 days, but 0.03 mg/m³ in the Nordic Swan proposal.

According to general experience, these limits only can be achieved with chemically or thermally pre-treated wood. All VOC emission out of wood or wood-based panels are of natural origin. Various wood species contain and therefore emit higher amounts of VOC, other wood species emit less. The consequence is that several European wood species will be excluded from the possibility to be used in products classified to the new Nordic Swan Ecolabel.

Formaldehyde

a) Established adhesive systems for wood based panels for the actual given emission limits for (i) E1 according to EN 312, EN 13986, EN 722-5, and EN 300, (ii) limit according to Chemikalien-Verbotsverordnung (Ordinance Chemicals Prohibition Ordinance) ("German E1"), and (iii) limit according to EU 2023/1464

Compliance to these limits values have been achieved with modified aminoplastic adhesives, under consideration of the increased use of special melamine-modified aminoplastic resins, a significant increase in the amount of adhesive applied, as well as by significant elongation of the press time. In addition, it must be ensured that the board properties still required according to the current quality standards are fulfilled. These established adhesive systems are mainly aminoplastic resins as currently used in the wood-based panels industry, especially for producing the big volumes of particleboard and MDF for furniture and other indoor application.

These established adhesives cannot fulfil the requirements as given by the new proposal of Nordic Swan concerning the subsequent formaldehyde emission. Therefore, these resins, which are produced worldwide in amounts of approx. 15 mio. tons, cannot be used.

The aminoplastic resins had been developed and improved in the last decades, especially to reduce the subsequent formaldehyde emission out of boards produced with these resins. It was the success of the chemical industry and the wood-based panels industry, that all mandatory limits can be achieved. However, the new Nordic

Swan limit is significantly lower, with the consequence that the adhesives actually in use in the wood-based panels industry cannot be used any longer.

For PB it is well known technology to combine aminoplastic resins and PMDI in the core layer; PMDI gives additional crosslinking of the aminoplastic network, hence maintaining the mechanical and hygroscopical properties (as requested by the quality standards) also at low emission level. This technology was also one of the ways to produce boards according to the German Ordinance of Prohibition of Chemicals with the limit of 0.05 ppm according to EN 717-1 (or 0.1 ppm according to EN 16516). However, for the Nordic Swan proposal this technology will not fulfil the emission limit and is, therefore, no viable alternative.

b) Alternative adhesive systems to fulfil the RAC proposal

The RAC proposal (see Table 1) was a further proposal with decreased formaldehyde emission. However, the new REACH Formaldehyde Restriction Regulation finally replaced this proposal. Further decrease in the content of formaldehyde in the aminoplastic resins would not have been possible. This means that already for the RAC proposal (though it never came into force), aminoplastic resins would not have been an alternative.

The only chance to produce boards according to the RAC proposal would had been formaldehyde-free adhesives, with PMDI as the only industrial diisocyanate. This PMDI technology as such is known since long time, but only used for OSB, not in broader sense used for particleboard or MDF due to many problems to be solved; this includes also the necessity to get official approvals to buy, store, and use isocyanates due to health concerns. In addition, the limits of diisocyanates in air at working places have been decreased significantly (with certain transition periods).

c) Adhesive systems to fulfil the new Nordic Swan proposal

As mentioned above, already the RAC proposal eliminated aminoplastic resins to be used. Now, the limit of the new Nordic Swan proposal is once more lower by the factor 2. This means as consequence, that only PMDI as isocyanate can be used for the production of wood-based panels according to the Nordic Swan formaldehyde emission limits.

Today there are no other alternative adhesives free from formaldehyde emission available for the production of wood-based panels at industrial scale. Only boards produced with the so-called “No added formaldehyde (NAF)” technology can fulfil this limit. Actually, however, PMDI is the only sole adhesive available on industrial scale as NAF adhesive. Except of reportedly one case, where PMDI is only used as crosslinker (but no details are disclosed) all NAF-based boards officially registered are based on PMDI as adhesive.

PMDI is the only industrially proven formaldehyde free adhesive for wood-based panels; it is used mainly for the OSB production and in very small volumes for special particleboard and MDF types niche markets.

The market for PMDI is tight. It mainly depends on the overall economic situation; main product for isocyanates are foams for various applications, such as in automotive or in construction. The increasing demand due to future increased activity of insulation in construction will lead to higher demand on isocyanates. This will even restrict more the capability for serving the wood-based panels industry. PMDI prices show a broad range and fluctuation, which leads to uncertainties for board producers and customers. In addition, experience of the last two decades

showed that the availability of PMDI is not always secured, with the consequence of reduced board production. This is a risk even for niche products such as boards according to the Nordic Swan.

Actually, PMDI is used in very restricted amounts in particleboard and MDF; only OSB uses mainly PMDI as adhesives. OSB is mainly dedicated for structural applications in humid conditions and industrial packaging. Though several classes of OSB are defined in EN 300 (Oriented Strand Boards (OSB) – Definitions, classification and specifications), the most common product, representing around 85% of the OSB production, is the type "OSB3" as load-bearing OSB panel for structural uses in humid conditions. Alternatives to PMDI for the production of OSB are to a small extent PF and MUF resins. However, these adhesives would not fulfil the formaldehyde emission as given with the new Nordic Swan proposal.

For the production of boards with PMDI, several investments are necessary at the board plants. This includes, among others, (i) separate storage tanks for PMDI with exclusion even of traces of moisture in the tanks, (ii) suitable exhausting systems due to strongly restricted concentrations of PMDI and PMDI-loaded dust (especially important aspect for fine face layer material in particleboard production and fibres in MDF production) in air based on adverse health effects, and (iii) application of PMDI (type of blenders, use of release agents in the presses to avoid sticking of particles and fibres on the surface of the steel belt).

Most producers of particleboard and MDF have no equipment available to use PMDI. This is the case, among others, for (i) storage of PMDI, (ii) equipment to dose PMDI onto particles (especially to the small particles – and sometimes even dust – in the face layer of particleboards, (iii) equipment of spraying PMDI onto the fibres in the so-called blowline (which needs special technology not commonly in use), and (iv) application of release agents onto the surfaces of the mat or onto the steel belt or the press platens, just to mention the most important missing equipment. Investment of this equipment and take over or development of the necessary production technology as well as necessary investment into workplace safety needs high investment.

In addition, based on experience of the industry, there is a loss of 30% in production capacity, when changing the aminoplastic resin system to PMDI and a drastic increase in the costs of the adhesives. PMDI is around five times the price of UF resins.

Contact with all isocyanates must be avoided, especially inhalation. PMDI has low vapour pressure, but spraying of PMDI creates aerosols that can lead to allergic sensitization from inhalation. Inhalation exposure is also a risk near hot pressing operations due to high temperature volatilization. Consequently, proper ventilation and isolation are required near the hot press. Another aspect are PMDI-loaded dust and fibres as suspended solids in the air.

d) Phenolic resins

Phenol-formaldehyde (PF) resins are known for their low formaldehyde emissions. However even PF resins would not fulfil the low limit according to the new proposal of Nordic Swan. In addition, PF resins are dark coloured and strongly alkaline, which can raise problems with, e.g., decorative plywood or with following coating and laminating of boards. Further problems with PF resins are: (i) the significantly longer press time needed due to missing catalytic curing effect, (ii) the request for various investments needed in the board plant (strict separation in storage and pumping between aminoplastic and phenolic resins), and (iii) the need for additional

authority approvals to be allowed to purchase, store, and use phenolic resins due to their toxicity, including the request for “no waste / no effluent operation” of the production.

However, though PF bonded boards show low formaldehyde emission, the production of boards according to the Nordic Swan proposal is not possible due to exceeding formaldehyde emission.

e) Adhesives based on natural resources

An abundant chemical and technical literature is available on all aspects and types of natural wood adhesives, their existing and potential applications, and their performance for bonded products. The clear majority of all papers published in the last two decades on adhesives for wood deals with such naturally based adhesives. However, the actual volumes of wood-based panels in Europe based on such naturally resourced adhesives are very restricted; in fact, actually there is only example of tannin based MDF produced; in NA a small production of soy based plywood exists. Unfortunately, all other alternative binders so far could not be scaled to an industrial level in practice.

The reasons are clear: all naturally based adhesives suffer from not satisfying technical performance (except the very few cases of industrial niche productions) and from limited availability. Additionally several components replacing formaldehyde are also toxic or hazardous to a certain extent; so it is not possible to guarantee that alternative adhesives are always safer during processing and the whole service life compared to conventional systems.

Naturally based adhesives comprise various natural resources, such as proteins, carbohydrates, lignins, tannins, and other sources based on plants or wood as feedstock. Further alternative would be the replacement of formaldehyde by other chemicals, such as furfural, glyoxal, dimethoxyethanal, glutyraldehyde, or 5-hyhroxymethylfurfural (5-HMF); extensive scientific literature about this has been reported, but no actual industrial or not even semi-industrial application is given; this is also not to be foreseen for the next couple of years.

f) Coated boards

Many wood-based panels are not used in a raw form, but instead have some type of surface finish that generally acts as a barrier against emissions; this is especially the case if so-called MF-impregnated papers are used for surface coating (“MFC boards”); therefore, such coated (laminated) boards have reduced emissions. This reducing effect for MFC boards is very significant and in the range of emission reduction of up to 80 – 90%; this means the coated board shows only 10 – 20% emission compared to the raw board as basis for the coated board. However, some boards used in furniture manufacture have open grooves or drilling holes (such as in acoustic boards).

There are also other types of coated boards, such as veneered boards or boards with lacquered finish foils, where emission of formaldehyde from the raw board or from the used adhesive system for the bondline between the raw board and the coating is possible. The second aspect can be eliminated by using formaldehyde-free thermoplastic adhesives, such as PVAc.

Anyhow, evidence by test results is necessary in each single case, that the Nordic Swan emission limit of 0.02 mg/m³ (0.016 ppm) according to EN 16516 (or 0.008 ppm according to EN 717-1) is fulfilled. Based on experiences so far, this is not secured.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. The requirement has been adjusted slightly based on the consultation comments. For wood-based products (including melamine faced products) the requirement is still set at the EU taxonomy level 0,06 mg/m³ according to EN717-1. So far, no limit has been set according to test after EN 16516, as it semes to be two different accepted correlation factors – 1,6 (correlation study between EN 16516 and EN 717-1) and then factor 2.0 (used in the German legislation)[7]. Nordic Ecolabelling is closely following the development as other test standards/accepted correlation factors will be approved in the future. The plan is to introduce an accepted requirement level using EN 16516 soon.

For laminate and other types of products included in the criteria the requirement level is kept on the same level as in generation 6 of the criteria. This requirement level is lower than the new EU regulation, but Nordic Ecolabelling have seen that the level is strict but possible to fulfil. Nordic Ecolabelling want to go further than regulation where it is possible without leading to unwanted effects as e.g., products with lower quality.

The requirement for VOC has also been changed after consultation. Wood-based products (including melamine faced products) is not covered by the requirements for emissions of VOC and SVOC. The requirement is only valid for laminate and other products. The requirement level is on the same level as in generation 6 since this is still considered to be strict limit values.

Forestia AS
Formaldehyd:
Det nye forslaget til krav til emisjoner av formaldehyd fra trebaserte plateprodukter er de laveste som noen gang har blitt foreslått. Konsekvensene av kravet er at det er ingen trebaserte plateprodukter som vil klare disse kravene og de vil derfor ikke kunne svanemerkes.

En ting er at kravene er lavere enn vi noen gang har sett tidligere. Men en annen sak er at testmetoden som er beskrevet ikke kan være forstått til fulle.

EU kommisjonen har i delegated act EU 2023/1464 nå vedtatt nye grenseverdier som trer i kraft august 2026 – etter en 36 måneders overgangsperiode. Grenseverdiene her er 0,05 ppm eller 0,062 mg/m3 basert på testmetoden EN 717-1. Dette er grenseverdier som har kommet frem gjennom flere års vurderinger. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv%3AOJ.L_.2023.180.01.0012.01.ENG&toc=OJ%3AL%3A2023%3A180%3ATOC

I forslaget til nye svanekriterier er det referert til testmetoden EN 16516 som gir et helt annet resultat. Grunnen til dette er at man ved å bruke denne metoden skal bruke en «Faktor 2» som betyr at grenseverdien halveres til 0,024 ppm eller 0,03 mg/m3. Dette betyr at man stiller krav til emisjoner som i praksis er helt umulig å oppnå.

[7] New E05 formaldehyde emission standard for wood-based materials - Walter Aresca

Konsekvensen av dette er at vi i Forestia vil terminere vårt svanesertifikat da vi ikke vil kunne tilfredsstille de nye kravene. Det vil heller ikke være andre trebaserte plater fra andre produsenter som vil kunne oppfylle de nye kravene.

For mer utfyllende detaljer henviser jeg til European Panel Federation (EPF) sitt høringssvar til de nye kriteriene som i mer detalj forklarer dette.

TVOC:

Dette kravet er helt urealistisk.

Henviser til European Panel Federation (EPF) sitt høringssvar til de nye kriteriene som i mer detalj forklarer dette.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. Please see answer given to European Panel Federation (EPF).

Dynea
Vi foreslår at dere legger inn EN 717-1 som referansemetode. Med EN 717-1 som referanse metode og de grenseverdiene som ligger inne kriteriedokumentet vil deres krav harmonere med grenseverdiene som nylig ble vedtatt av EU-kommisjonen (delegated act EU 2023/1464*) og som trådte i krav 6. august 2023.

Ettersom loven har en overgangstid på 3 år, så mener vi at innføring av dette kravet nå allerede vil være en vesentlig innstramning på formaldehyd emisjon på plater. *) Lovteksten finnes her :. https://eur-lex.europa.eu/legal content/EN/TXT/?uri=uriserv%3AOJ.L_.2023.180.01.0012.01.ENG&toc=OJ%3AL%3A2023%3A180%3ATOC

Vi vil også påpeke at både emisjonsmetode og grenseverdier må vurderes i sammenheng. Grenseverdiene fra EU kommisjonen er et resultat av flere års arbeid og vurderinger. Denne henviser til EN 717-1 og ikke EN16516 som dere viser til. Det vil også komme retningslinjer og korrelasjoner fra ECHA, og vi forventer at alle nasjonale krav vil tilpasses lovteksten ved slutten av overgangstiden.

Ved å utelate EN 717-1 som referansemetode vil Svanen operere utenfor aktive regulatoriske prosesser. I tillegg vil kravene slik de foreligger fra Nordisk Miljømerking innebærer de laveste grenseverdiene som noen gang har blitt foreslått. Konsekvensene vil høyst sannsynlig være ingen trebaserte plater kan klare emisjonskravene og at denne produktgruppen ikke lenger kan svanemerkes. Dynea har vært i kontakt med Forestia og EPF i denne prosessen og vi vet at EPF har utarbeidet mer detaljerte høringssvar når det gjelder kriteriene for emisjon av formaldehyd og TVOC. Disse beskriver mer detaljert hvorfor platebransjen ikke kan leve med kriteriene slik de er formulert nå og hva som vil være konsekvensene.

Dynea støtter EPF sine faglige innspill og anbefaler at Nordisk Miljømerking setter seg inn i deres høringsuttalelse for emisjoner.

CLT og GLT
Alle godkjente MUF lim for bærende konstruksjoner består av lim + herder - kombinasjoner der MUF-limene i stor grad har fri F > 0,2%. Vi anbefaler derfor at Svanen akseptere at det oppgis fri formaldehyd for lim-blanding og ikke bare lim for disse applikasjonene.

Kommentarene som er gitt for emisjon av formaldehyd (og VOC) gjelder også for CLT og GLT.

TVOC
Vi ser at det finnes VOC krav både for lim og for ferdig plate. Kravene for innhold i lim (O36) akseptable, men det er ikke helt klart om alle lim eller kun lim brukt i laminat produksjon som skal klare kravene i O49.
"Resin used in the production of laminate is exempted from the requirement that the laminate must meet later requirements for VOC emissions."

VOC emisjon fra tre er uunngåelig og vil i mange tilfeller overstige grenseverdiene. Dersom alle produkter skal tilfredsstille kravene for VOC emisjon i O49 vil dette ekskludere også de fleste trebaserte produkter (se detaljerte forklaringer fra EPF).

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. Please see answer given to European Panel Federation (EPF) regarding emission of formaldehyde and VOC. Regarding free formaldehyde in adhesives the requirement has been changed for products used in load-bearing structures. For these adhesives the requirement for free formaldehyde can be documented for the mixture of adhesive and hardener.

Muovilami Oy
"If that "laminate limit value" is applied, which is not clear in my opinion, because I believe that the rule is meant for materials with "formaldehyde based additives" (we don't have these), **the limit value of 0.02 mg/m3 is quickly calculated as 0.016 ppm** - after a quick google search, city air can contain 0.001 - 0.02 ppm formaldehyde.
My opinion is that limit value 0.02 mg/m^3 Is too tight because normal city air (outside!) can contain that much formaldehyde.

The limit with styrene content is even more difficult: **Styrene is not mentioned as such, but if we use VOC limit for TVOC (C6 - C16) the limit is 0,16mg/m^3, which corresponds 0,037ppm (ppm for styrene come so low because molecular weight is high – if this is meant for some 'light' gases' the case is different).**
The limit in our understanding is not possible to reach with polyester resin even after whatever post cure cycle"

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. The emission requirements for laminate have been changed after consultation. The requirements are changed to be on the same level as in generation 6 of the criteria. These are strict limit values, but Nordic Ecolabelling have seen that they are possible to fulfil since there are laminate ecolabelled with the Nordic Swan Ecolabel.

Metsä Wood
Related to the requirements on the basis of standard EN 16516 it would be important to specify which value is compared to the formaldehyde/VOC emission limit value (this is missing also from the taxonomy):

- SER value (specific emission rate, 'test chamber value') or reference room value (which loading factor to be used)?

It seems that the limit values are SER values (similarly as in M1 Emission Classification). For example TVOC limit 0,16 mg/m3 vs. M1 limit 0,2 mg/m3 . Reference room values are calculated from the SER values by multiplying them with a loading factor. As reference room limit values the limits would be too strict. –

Regarding formaldehyde it would be preferable to mention also test method EN 717-1 which is the initial type testing method for wood products.

Regarding VOC emission the reference should be made to standard ISO 16000-6 rather than ISO 16000-3.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. The requirements for VOC have been changed after consultation to on the same level as in generation 6 of the criteria, wood-based products are not covered by the requirement. EN 717-1 has been added as a test method for wood-based products. When testing the products, the mentioned test standards should be followed and the most appropriate loading factor for the type of product should be chosen.

Unilin Panels

- There is a major issue with the description of this requirement:
  - The limit value taken is more strict than the official value communicated in the COMMISSION REGULATION (EU) 2023-1464 of 14 July 2023 of 0.062 mg/m³ (see attachment)
  - The EU regulation does not mention ISO 16516 nor ISO 16000-3, the regulations states in his appendix 14 (a) -> (d) conditions which all refer to the EN 717-1 conditions (temperature, humidity, loading factor, air exchange rate), our experience is that a limit of 0.062 mg/m³ according 16516 with loading factor of 1 would mean 25% more severe than same measurement according 717-1 (Cfr. German ChemVerbotV where reference method limit according EN 16516 of <0.1ppm correlates with 717-1 limit of 0.05ppm, knowing there LF 1.8), reaching limit of < 0.062 mg/m³ by 16516 is (almost) impossible for particleboard and MDF production when not using NAF glues.
  - It would be logic that Nordic Ecolabelling follows the new EU regulation which comes active as from 2026 according to limits and reference method?
  - EU regulation is applicable for articles put on the market, why do laminated products get a far more severe limit of 0.02 mg/m³ than stated in EU regulation?
  - Why putting limits on a "raw" semi-finished product when emission behaviour totally changes when the board is finished afterward and only the finished board ends up in the end application where indoor air quality is of importance.

Formaldehyd emissions from panels

The requirement covers all panels and boards containing formaldehyde-based additives. The test shall be carried out in accordance with the test method* EN 16516 or ISO 16000-3 or other equivalent standardised test conditions and determination methods.

The average emission of formaldehyde must not exceed the limit value for the type of panel according to table below:

Type of panel	Limit value after 28 days** (mg/m^3) according to EN 16516.
Wood-based panels and panels based on non-renewable raw materials	0,06 mg/m3
Laminates***	0,02 mg/m3

'Appendix 14

1. **Measurement of formaldehyde released to indoor air from articles referred to in paragraph 1, first subparagraph, of entry 77**

The formaldehyde released from articles referred to in paragraph 1, first subparagraph of entry 77 shall be measured in the air of a test chamber under the following cumulative reference conditions:

(a) the temperature in the test chamber shall be (23 ± 0,5) °C;

(b) the relative humidity in the test chamber shall be (45 ± 3) %;

(c) the loading factor, expressed as the ratio of the total surface area of the test piece to the volume of the test chamber, shall be (1 ± 0,02) m^2/m^3. This loading factor corresponds to the testing of wood-based panels; for other material or products, if such a loading factor is clearly not realistic under foreseeable conditions of use, loading factors in accordance with Section 4.2.2 of EN 16516 (*) may be used;

(d) the air exchange rate in the test chamber shall be (1 ± 0,05) h^{-1};

(e) an appropriate analytical procedure for measuring the formaldehyde concentration in the test chamber shall be used;

(f) an appropriate method for sampling of the test pieces shall be used;

(g) the formaldehyde concentration in the air of the test chamber shall be measured at least twice per day throughout the test with a time interval between two consecutive samplings of 3 hours at a minimum; the measurement shall be repeated until sufficient data are available to determine the steady state concentration;

(h) the duration of the test shall be sufficiently long to allow the determination of the steady state concentration and shall not exceed 28 days;

(i) the steady state concentration of formaldehyde measured in the test chamber shall be used to verify the compliance with the limit value of formaldehyde released from articles referred to in paragraph 1, first subparagraph, of entry 77.

If data from a test method using the reference conditions specified above are not available or suitable for the measurement of the formaldehyde released from a specific article, data obtained from a test method using non-reference conditions may be used, where there is a scientifically valid correlation between the results of the test method used and the reference conditions.

<u>O49 VOC emissions:</u>

- There is no distinction between raw boards and laminated boards though the VOC emission of both products is totally different (similar to Formaldehyde)

VOC emissions from panels

Emissions from panels must not exceed the limit values according to table below. The test shall be carried out in accordance with the test method EN 16516 or ISO 16000-3:201188 or other equivalent standardised test conditions and determination methods.

Substance or group of substances	Limit value after 28 days** (mg/m^3) according to EN 16516.
TVOC (C6-C16)	0,16
SVOC (C16-C23)	0,03
Carcinogenic VOC in category 1A and 1B	0,001

- The limits are currently only feasible with laminated boards, not any raw board (particleboard, MDF or multiplex) can possibly meet this limits (10 years of test report available and even NAF products can not meet this expectation as raw board)
- Conclusion: a separate limit for raw boards and laminated boards would be logic because current proposal is unrealistic for board manufacturers
- Conclusion 2 again the same discussion takes place : why putting limits on a "raw" semi-finished product when emission behaviour totally changes when the board is finished afterward and only the finished board ends up in the end application where indoor air quality is of importance

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. Please see answer given to European Panel Federation (EPF). With the change of the emission requirements after consultation the limit values should be possible to fulfil also for low emitting "raw" boards. Nordic Ecolabelling want to contribute also to a better working environment and not only a better indoor air quality for the end consumer.

Rockfon
TVOC level at 0,16 mg/m3 is considered very low and seem to be 'borrowed' from Finnish M1 (or indirectly via Eurofins Gold level requirements). Generally for VOC requirements: Instead of just 'shopping' in lowest/strictest available schemes we suggest differentiation based on toxicological (EU-LCI) factors. Also, to be considered that stipulated test method favors ceiling products for wall products as the material quantity in test for the latter is four times larger (4 walls). French A+ level is 1,0 and DICL best class still 0,5 mg/m3. Finnish M1 level (favored here) is 'biased' on formaldehyde mitigation.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. The requirement for VOC has been changed after consultation to be on the same level as in generation 6 of the criteria. The limit value for TVOC was 0,16 mg/m³ also in generation 6, Nordic Ecolabelling have seen that this is a strict requirement but possible to fulfil and therefore wants to keep this limit value.

Kronospan
Fra producentside kan det være relevant at få tilføjes ASTM 1333 og ASTM 6007, hvor 0,1 ppm efter EN 16516 svarer til 0,075 ppm efter ASTM.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. According to Eurofins there has not yet been a common agreement on how to compare test of formaldehyde emissions according to EN16516 and ASTM. NM will closely follow the development within approved test-standards for a possible later approvement of ASTM tests.

Emissions from the production - COD

O50 Emissions of COD from wet processes

No comments received.

Emissions from the production – working environment

O51 Emissions to air from production of laminate in HPL and compact laminate

No comments received.

O52 Emissions of dust

Unilin Panels

- Emission of dust could be an issue in certain handling steps like sawing, trimming, routhering but in this proposal there is not explicit determined where to measure
- In many cases the most critical steps towards dust emission are not in the board manufacture environment but in the end user stage

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. We agree that the requirement could be more specific when it comes to where to measure. The requirement has been adjusted so it clearly says from gate to gate at the laminate production site.

4.3.6 Climate and energy

O53 Energy consumption in the production of kraft paper and pulp that is included in HPL, compact laminate, acoustic- or gypsum plasterboards

No comments received.

O54 Energy consumption – laminate production

Unilin Panels
Energy use for HPL < 2mm (Current: 18MJ/kg -> Proposal 8 MJ/kg):

- A level < 8MJ/kg is almost impossible to reach, as Unilin Panels we are part of the ICDLI federation for HPL suppliers which calculated a sectoral EPD based on information gathered from the members. In that EPF an average energy use of +/- 11 MJ/kg is calculated, knowing this is an average with a range of +/- 2 MJ/kg.

Energy use for compact HPL > 2mm (Current: 14MJ/kg -> Proposal 14 MJ/kg):

- A level < 14MJ/kg is easy to reach, as Unilin Panels we are part of the ICDLI federation for HPL suppliers which calculated a sectoral EPD based on information gathered from the members. In that EPF an average energy use of +/- 8 MJ/kg is calculated, knowing this is an average with a range of +/- 2 MJ/kg, the proposal of 14MJ/kg is quite strange, a level of 8MJ/kg would be more logic there.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. The proposed energy requirements for HPL panels have not been correct in the consultation and therefore been adjusted from 18 MJ/kg to 11 MJ/kg for HPL< 2mm and from 14 MJ/kg to 8 MJ/kg for HPL > 2mm.

O55 Energy consumption – wood-based panels

Unilin Panels

- The limits of < 7MJ/kg for MDF are very severe and in many cases impossible to reach, the gap between the old restriction of 11 MJ/kg (MDF) is very big.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. We agree that the proposed energy requirement for MDF is too strict and therefore has been adjusted to 9 MJ/kg.

O56 Energy consumption – panels made from other lignocellulose raw materials

No comments received.

O57 Energy consumption - CLT and glulam (cross and glued laminated timber)

No comments received.

O58 Energy consumption - Solid wood panels and mouldings

No comments received.

Mineral- and non-renewable raw materials

O59 Energy consumption - Wood Plastic Composite panels (WPC)

Recoma
Inga kommentarer.
Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments.

O60 Energy consumption - gypsum plasterboards

Euro Gypsum
Plasterboards are construction products with a significantly lower embodied carbon content, due to industry efforts to achieve high efficiency in production. Further efforts are carried out to move along Europe's carbon neutrality objectives.
For most standard products the 3 MJ/kg plasterboard threshold will be achievable, but some premium products can have higher energy consumption in production than a standard board.

We would require **flexibility in the case of producing these premium products**, which provide sustainability gains in their use, e.g. by providing specific desired properties such as duration or impact resistance, or requiring fewer boards in a given construction. While requiring further energy in production than standard boards, such premium products enable structure optimization and reduce the overall resource consumption.

Therefore, we would suggest a **possible exemption** for such solutions, or an increase of the maximum energy consumption to **3.5 MJ/kg**.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. NE agrees and see a need for introducing a second energy requirement for "premium products" such as impact resistant boards.

O61 Energy consumption - mineral wool

Saint Gobain
Et krav om at energiforbruget til produktion af glasuld og stenuld ikke må overstige hhv. 11 og 15 MJ/kg produkt vil effektivt udelukke nærmest alt mineraluld fra svanemærket byggeri. Dette på trods at mineraluld har et af de laveste energiforbrug pr. produceret enhed på isolerings(plade)markedet. Kravværdierne børe derfor tages op til genovervejelse.

Kravet bør revideres så det ikke refererer til 1 kg produkt men en funktionel enhed hvorved der gives mulighed for at optimere konstruktioner og gives plads til forskelle i karakteristika for forskellige produkttyper. Herunder forskellige densiteter på sammenlignelige produkter.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. NE agrees that the proposed energy requirement for stone wool is to strict and therefore adjusted from 11 to 15 MJ/kg. The requirement for glass wool is adjusted from 15 to 13 MJ/kg.
The functional unit is defined as MJ/kg as it allows us to compare the different types of panels in the criteria. Energy consumption is calculated as an annual average for either a specific Ecolabelled production or the whole production site. This allows some flexibility when including panels with different density in the calculation.

Paroc Group Oy
Paroc anser att den högre tillåtna energianvändningen vid produktion av glasull än stenull bör revideras med hänsyn till att stenullsproduktion kräver högre temperaturer än glasullsproduktion.
Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. See comments above.

Rockfon
Not clear why a distinction is made between energy use when producing stone wool vs, glass wool. The melting temperature of stone is higher than glass and higher energy consumption acceptable for glass wool does not seem justified. High level, mineral wool production in general uses several different technologies with more difference between these than between the raw material produced in them. Levels should be left general or equal.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. See above comment to Saint Gobain.

O62 Energy consumption - mineral wool-based panel (incl. facing/finishing)

Rockfon
OK. As per above – here left general for 'mineral wool'
Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments.

O63 Energy consumption – Cement

No comments received.

O64 Energy consumption - cement-based panels

No comments received.

O65 Energy consumption - panels made from other materials

Akustikmiljö
Energiförbrukning: inga övriga kommentarer, bra med bilaga 6 där man ger exempel på uträkningar och beskriver detaljerat hur uträkningen ska göras, här kan man inte vara tydlig nog

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments.

4.3.7 Circularity

O66 Information for consumers

No comments received.

O67 Maintenance

No comments received.

O68 Take-back system

Miljøministeriet
Miljøministeriet mener at teksten til O68 er uklart formuleret og hvad det gælder. Miljøministeriet forstår det gælder alle andre produkttyper, end lige WPC.

I teksten står der, at kravene ikke gælder for "… already functioning return system". Hvad er 'functioning', hvad indebærer det, at et retursystem er fungerende.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. Wood based panels (not WPC) and gypsum plasterboards are already to a high degree collected via national return/recycling systems and therefore not part of the requirement. All other types of panels need to comply with the requirement.

Recoma
Inga kommentarer.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments.

4.3.8 Innovation

O69 Innovation in production

Kiilto Oy
In this chapter you have introduced options for manufacturers to promote their products. Second box on the area of chemicals says that no adhesives based on urea-formaldehyde or isocyanate are used in the production of Nordic Ecolabelled product. Before adding this box, please check that standards for example EN 14080 and EN 16351 don't have strictions for which type of glue can be used to make the product. The glue type must be approved by the standard and it cannot conflict with the criteria of Nordic Ecolabelling.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. The innovation requirement contains 13 options whereof only one of the options needs to be fulfilled by the applicant. Urea-formaldehyde-/isocyanate adhesives are/can be used in several types of wood-based panels and therefore relevant to these panel types. The standards for cross- and glued laminated timber includes/allows several types of adhesives and therefore could this option be relevant these two types of panels.

Recoma
Inga kommentarer.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments.

4.3.9 License maintenance

O70 Customer complaints

No comments received.

O71 Traceability

No comments received.

4.3.10 Appendices

No comments received.

5 Comments to the background, in detail

No comments received.

6 Discussion and conclusion

Several consultation comments have been received to the proposed draft proposal criteria for Panels and mouldings for interior use, generation 7. The comments

concentrate on the proposed new and adjusted requirements. Nordic Ecolabelling is grateful for all-round responses.

The main comments apply to the following sections and requirements:

Product group definition
Stakeholder has recommended to highlight and add a more information to the 10% exemption for materials that is not part of the criteria. The text/requirement has been added more explanatory text and moved up under the section "what can carry the Nordic Swan Ecolabel".

Acoustic panels, acoustic performance
Several stakeholders point out that the absorption class of a product is not the only relevant parameter to look at in acoustic design. More sophisticated acoustic room design might also require other products with alternative acoustic features as (semi)reflection, specific frequency tuning (e.g., low tone absorption for increased speech intelligibility) or sound insulating properties that does not yield class A or B. The requirement has therefore been adjusted for acoustic panels with alternative acoustic features.

Traceability and certified wood
Comments saying that the requirement is unclear formulated and not relevant do to lack of quality recycled raw materials (long transportation)/the marked already uses all available recycled raw materials. The requirement for minimum 50% post-consumer recycled materials in particleboard has therefore been removed.

Textile, synthetic fibres
Stakeholder comments that not possible to produce quality polyester fibre from 100% recycled materials. The requirement has been changed from 100% recycled materials to minimum 50% post-consumer recycled materials.

Recycled composite
Stakeholder comments are sceptic to include traditional WPC in the product group. However, the requirement was formulated wrongly. The intention was that only recycled material that is already a composite material should be included in the criteria. The requirement has been changed now referring to 100% composite recycled materials of which 50% is to be post-consumer recycled material.

Recycled content in mineral wool
Comments saying that 85% recycled material in glass wool is too ambiguous. The requirement has been adjusted to min. 70% recycled materials in glass wool.

Emissions of formaldehyde and VOC
Several stakeholders point out the uncertainties regarding ongoing EU legislation for emission of formaldehyde (test methods, level of requirement, taxonomy). The requirement for formaldehyde emissions from panels are harmonised with the EU Taxonomy requirement. The specified test conditions refer to in Annex XVII in Regulation (EC) No 1907/2006. However, the use of different test standards in relation to the stated emission value of 0,06 mg of formaldehyde per m3 (correlation between standards) is still being debated. That's way, for now, the limit of 0,06 mg/m3 is only set in relation to EN717-1. As soon as the testlab/industries agrees on

a common correlation between EN 717-1 and EN 16516 this will be added to the criteria.

For laminate and other types of panels, e.g., gypsum and cement-based panels, the limit value is set to 0.03 mg/m^3 according to EN 16516. This limit value is the same in generation 6 of the criteria.

Energy consumption – laminate production
Comments saying that the proposed limits for respectively HPL ≥ 2 mm and HPL ≤ 2 mm seams wrong. The requirement has been changed from proposed 14 MJ/kg to 8 MJ/kg for HPL ≥ 2 mm and from proposed 8 MJ/kg to 11 MJ/kg for HPL ≤ 2 mm.

Energy consumption – wood-based panels
Stakeholder comments that the proposed limits for particle boards and MDF is too ambiguous. The requirement has been adjusted from 6 to 7 MJ/kg for particleboard and from 7 to 9 MJ/kg for MDF panels.

Energy consumption – gypsum plasterboards
Comments saying that the proposed limit (3 MJ/kg) for standard boards (type A) is okey but not for premium boards. A new limit of 3,5 MJ/kg has been introduced for impact resistant boards.

Energy consumption – mineral wool
Comments recommending changing the limits for glass- and stone wool. The limits have been adjusted from 11 to 15 MJ/kg for stone wool and from 15 to 13 MJ/kg for glass wool.

Table 1: Overview of changes done in the generation 7 of criteria for panels and mouldings for interior use, based on received consultation responses in the final draft process.

Requirement	Consultation comments	Change in the requirement after the consultation
Product group definition	The proposed exemption for up to 10% of materials that is not part of the criteria needs to be highlighted and clarified.	The text/requirement has been moved up under product types and clarified.
O3 acoustic panels, acoustic performance	Absorption class is not the only relevant parameter. Other parameters such as reverberation time, specific frequency tuning or sound insulation are also relevant and does often not yield class A and B.	Acoustic panels marked with alternative primary acoustic features/purposes for use in e.g., concerts halls or cinemas are now exempted from the requirement. However, sound absorption must still be tested/stated.
O5 Traceability and certification (wood raw materials)	Requirement for min. 50% post-consumer recycled materials in particleboard not relevant (fibres are already being used, leads to increased transport).	The requirement for min. 50% post-consumer recycled materials in particleboards has been changed to 50% recycled materials.
O15 Synthetic fibres	Due to quality-issues not possible to produce polyester from 100% recycled materials.	The requirement has been changed from 100% recycled materials to minimum 50% post-consumer recycled materials.
O17 Plastic	Not possible to comply with 100% recycled materials. The requirement should promote post-consumer recycled materials.	The requirement has been changed from 100% recycled plastic to minimum 50% recycled materials of which min. 20% must be post-consumer recycled materials. Virgin and recycled materials must not be PVC or PVDC
018 Chemicals in recycled plastics	Should also include test for PAH.	PAH – 8 specific PAH listed in REACH has been added to the requirement.
O21 Wood fibre and plastic	The name and requirement should change and focus on recycled composite materials – Not traditional WPC.	The requirement has changed to 100% recycled composite materials of which must be 50% post-consumer recycled.
O23 Material recovery in WPC		The requirement has been deleted. Part of requirement for O68 take back system.
O25 Heavy metals (mineral raw materials)	A number of the reference values for heavy metal concentrations in mineral raw materials differ from the benchmark used by the industry.	The reference values has been updated according to benchmark used by the industry.

O27 Recycled mineral wool	Not possible to comply with min. 85% recycled materials in glass wool.	Share of recycled materials in glass wool has been adjusted from 85% to 70%.
O49 Emissions of formaldehyde and VOC	Formaldehyde: Unclear EU legislation and use of test methods. To ambiguous limit. VOC not relevant for wood-based panels	The requirement has been changed slightly – the limit is still 0,06 to ensure EU taxonomy alignment. No VOC requirement for wood-based panels.
O54 Energy consumption - laminate production	Proposed limits for respectively HPL ≥ 2 mm and HPL ≤ 2 mm seams wrong.	The requirement for energy consumption has been adjusted: HPL≥ 2 mm changed from 14 to 8 MJ/kg and HPL≤ 2 mm changed from 8 to 11 MJ/kg.
O55 Energy consumption – wood-based panels	Proposed limits for particle boards and MDF is too ambiguous.	The requirement for energy consumption has been adjusted: Particleboards from 6 to 6.5 MJ/kg MDF and HDF from 7 to 9 MJ/kg
O60 Energy consumption – gypsum plasterboards	Proposed limit (3 MJ/kg) for standard boards (type A, EN520) is okey but not for premium boards.	New requirement for "premium" plasterboards; 3,5 MJ/kg
O61 Energy consumption – mineral wool	The proposed energy requirements for both glass- and stone wool needs to be updated. More energy is used to produce stone wool than glass wool.	The requirement for energy consumption has been adjusted: Stone wool adjusted from 11 to 15 MJ/kg Glass wool adjusted from 15 to 12 MJ/kg