Brussels, XXX
[….] (2016) XXX draft

COMMISSION DECISION

of XXXX

establishing the ecological criteria for the award of the EU Ecolabel for wood, cork and bamboo based floor coverings

(Text with EEA relevance)

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EU Ecolabel for wood, cork and bamboo based floor coverings

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THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Regulation (EC) No 66/2010 of the European Parliament and of the Council of 25 November 2009 on the EU Ecolabel[1], and in particular Article 8(2) thereof,

After consulting the European Union Eco-labelling Board,

Whereas:

(1) Under Regulation (EC) No 66/2010, the EU Ecolabel may be awarded to products which have a reduced environmental impact during their entire life cycle.

(2) Regulation (EC) No 66/2010 provides that specific EU Ecolabel criteria are to be established according to product groups.

(3) In order to better reflect the range of wood, cork and bamboo based floor coverings on the market, the state of art for these products and to take into account the innovation of the last few years, it is considered appropiate to modify the name and scope of the product group and to establish a revised set of ecological critera.

(4) The revised ecological criteria aim at using materials produced in a more sustainable way (considering a life cycle analysis approach), limiting the energy consumed and the use of hazardous compounds, the levels of hazardous residues, the contribution of the floor coverings to indoor air pollution and promoting a durable and high-quality products. The revised criteria, along with the related assessment and verification requirements should be valid for ten years from the data of adoption of this Decision, taking into account the innovation cycle for this product group.

(5) Decisions 2010/18/EC and 2013/295/EU (prolongation of the validity of the criteria) should therefore be replaced

(6) It is appropiate to allow a transitional period for producers whose products have been awarded the EU Ecolabel for wooden floor coverings on the basis of the ecological criteria set out in Decision 2010/18/EC, so that they have sufficient time to adapt their product to comply with the revised criteria requirements. Producers should also be allowed to submit applications based on the ecological criteria set out in Decision 2010/18/EC for a sufficient period of time.

(7) The measures provided for in this Decision are in accordance with the opinion of the Committee established by Article 16 of Regulation (EC) No 66/2010,

[1] OJ L 27, 30.1.2010, p. 1.

HAS ADOPTED THIS DECISION:

Article 1

The product group of 'wood, cork and bamboo based floor coverings' shall comprise indoor floor coverings, including wood floorings, laminate floorings, cork floor coverings and bamboo floorings which are made, for more than 80 % in mass (in the final product), from wood, wood-based, cork, cork-based, bamboo and bamboo-based materials or fibres. Synthetic fibres are not permitted in any of the composing layers.
It does not apply to wall coverings, coverings for external use or with a structural function. It does not apply for levelling compounds

Article 2

For the purpose of this Decision, the following definitions shall apply:

1. "Wood flooring" means, an assembly of wood elements pre-assembled boards or parquet panels which constitute the wearing surface of the floor[2]. A wood floor covering can be either unfinished or be prefinished in a factory. Unfinished wood flooring, once installed, is sanded and then finished on site.

2. "Laminate flooring" means rigid floor covering with a surface layer consisting of one or more thin sheets of a fibrous material (usually paper), impregnated with aminoplastic thermosetting resins (usually melamine), pressed or bonded on a substrate, normally finished with a backer[3].

3. "Cork floor coverings" means floor coverings made of granulated cork mixed with a binder, and then cured or several layers of cork (agglomerated/ veneer) that can be pressed together with glue and is intended to be used with a finish[4].

The cork floor coverings can be divided into natural cork tiles (the main component of which is agglomerated composition of cork, intended to be used with a finish) and in engineered cork panels (consisting of several layers including a fibreboard the main component of which is agglomerated cork or has cork as technical solution, intended to be used with a finishing wear layer).

4. "Bamboo floor coverings" means floor coverings made of bamboo in solid pieces or in agglomerates mixed with a binder

5. "Volatile organic compound" (VOC) means all volatile organic compounds eluting between and including n-hexane and n-hexadecane on a gas chromatographic column as specified in 8.2.2 of the FprCEN/TS 16516:2013[5].

6."Semi volatile organic compound" (SVOC) means all organic compounds which, in a capillary column as specified in 8.2.2 of the FprCEN/TS 16516:2013, are eluting with a retention range between n-hexadecane (excluded) and n-docosane (included)[6].

7. "R value" means the sum of all R_i values where R_i value is the ratio C_i / LCI_i, where C_i is the chamber mass concentration of compound i, and LCI_i is the LCI (lowest concentration of interest) value of compound i defined under the European Collaborative Action "urban air", indoor environment and human exposure[7]

8. "Impurity" refers to residues from primary production which may be found in the finished product at concentrations below 100 ppm (0.01% by weight, 100 mg/kg), but not substances that have been added to a raw material or the product actively and for a particular purpose, irrespective of quantity. Impurities of over 1% concentration in the primary product are, however, regarded as constituent

[2] in accordance with prEN 13756, wood flooring - terminology
[3] in accordance with EN 13329, laminate flooring. specifications, requirements and test methods
[4] in accordance with EN 12466, Resilient floor coverings - vocabulary
[5] The measurement is carried out using a capillary column coated with 5 % phenyl/95 % methyl-polysiloxane. This definition corresponds to volatile organic compounds with a boiling point in the range of approximately 68 °C to 287 °C.
[6] The measurement is carried out using a capillary column coated with 5 % phenyl/95 % methyl-polysiloxane. This definition corresponds to volatile organic compounds with a boiling point approximately higher than 287 °C.
[7] http://publications.jrc.ec.europa.eu/repository/bitstream/JRC83683/eca%20report%2029_final.pdf

substances. Substances known to be degradation products of the constituent substances are also themselves considered to be constituent substances.

9. "Raw material" means a basic material that is used to produce goods, finished products, energy or intermediate materials which are feedstock for future finished products. The term connotes these materials that are bottlenecks assets and are highly important with regards to producing other products. These materials are usually materials unprocessed or minimally processed or unprocessed and that are internationally marketed in substantial volumes.

10. "Substance" means a chemical element and its compounds in the natural state or obtained by any manufacturing process, including any additive necessary to preserve its stability and any impurity deriving from the process used, but excluding any solvent which may be separated without affecting the stability of the substance or changing its composition[8]

11. "Mixture" means a mixture or solution composed of two or more substances as defined in Article 3(2) or Regulation (EC) No 1907/2006[9]

12. "Biocidal product" means, in accordance with Article 3(1)(a) of Regulation (EU) No 528/2012[10],

- any substance or mixture, in the form in which it is supplied to the user, consisting of, containing or generating one or more active substances, with the intention of destroying, deterring, rendering harmless, preventing the action of, or otherwise exerting a controlling effect on, any harmful organism by any means other than mere physical or mechanical action,

- any substance or mixture, generated from substances or mixtures which do not themselves fall under the first indent, to be used with the intention of destroying, deterring, rendering harmless, preventing the action of, or otherwise exerting a controlling effect on, any harmful organism by any means other than mere physical or mechanical action.

A treated article that has a primary biocidal function shall be considered a biocidal product

13. "Preservative" means in accordance with Annex V of Regulation (EU) No 528/2012[11] products used for the preservation of wood, from and including the saw-mill stage, or wood products by the control of wood-destroying or wood-disfiguring organisms, including insects. This definition includes both preventive and curative products. The definition shall also apply to products used for the preservation of cork and/or bamboo.

14. "Active substance" means, in accordance with Article 3(1)(c) of Regulation (EU) No 528/2012[12], a substance or a micro-organism that has an action on or against harmful organisms.

15. "Recycled material" means material that has been reprocessed from recovered/reclaimed material by means of a manufacturing process and made into a final product or into a component for incorporation into a product, but excludes waste wood, chips and fibres from logging and saw-milling operations, as defined in ISO 14021

16. "Wood-based material" means material fabricated from wood fibres by one of several different processes that may involve the use of elevated temperatures, pressures and binding resins or adhesives; Wood-based materials comprise: hardboard, fibreboard, medium and high density fibreboard, particleboard, OSB (oriented strand board), plywood, and panels in solid wood. It also refers to composite materials made from wood-based panels coated by plastics, or laminated plastics, or other coating materials and finished/semi-finished wood-based panels. Similar definitions should stand for cork-based and bamboo based materials.

17. "Synthetic fibres" means acrylic, elastane, polyamide, polyester and polypropylene fibres

18. "E1" means a classification for formaldehyde-containing panels adopted across EU Member States based on formaldehyde emissions. According to the definition provided in Annex B to EN 13986, a wood-based panel shall be classified as E1 if emissions are equivalent to steady state concentrations of

[8] OJ L 396, 30.12.2006, p.53
[9] OJ L 396, 30.12.2006, p.1
[10] OJ L167, 27.06.2012 p.9
[11] OJ L167, 27.06.2012 p.105
[12] OJ L167, 27.06.2012 p.10

less than or equal to 0.1ppm (0.124 mg/m^3) of formaldehyde after 28 days of a chamber test carried out according to EN 717-1 or that the formaldehyde content is determined to be less than or equal to. 8mg/100 g oven dry board when measured according to EN 120 or that formaldehyde emission rates are less than or equal to and 3.5mg/m^2h according to EN 717-2 or less than or equal to 5.0-12.0 mg/m^2h according to the same method but; within 3 days after production.

19. "Renewable energy" (or renewable energy sources (RES)) means energy from renewable non-fossil sources, namely wind, solar, aerothermal, geothermal, hydrothermal and ocean energy, hydropower, biomass, landfill gas, sewage treatment plant gas and biogases[13];

20. "Guarantee of origin" means an electronic document which has the sole function of providing proof to a final customer that a given share or quantity of energy was produced from renewable sources as required by Article 3(6) of Directive 2003/54/EC[14]

21. "Final product" means the ultimate result of a series of changes, processes and operations leading to an end product that is ready to be installed in the end users place or facilities.

Article 3

In order to be awarded the EU Ecolabel under Regulation (EC) No 66/2010, a product shall fall within the product group group 'wood, cork and bamboo based floor coverings' as defined in Article 1 of this Decision and shall comply with the ecological criteria as well as the related assessment and verification requirements set out in the Annex to this Decision

Article 4

The ecological criteria for the product group 'wood, cork and bamboo based floor coverings', and the related assesment and verification requirements shall be valid for ~~six years~~ ten years form the date of adoption of this Decision.

Article 5

For administrative purposes, the code number assigned to the product group 'wood, cork and bamboo based floor coverings' shall be "x".

Article 6

Decisions 2010/18/EC and 2013/295/EU (prolongation of the validity of the criteria) are repealed.

Article 7

This Decision is addressed to the Member States.

Done at Brussels,

For the Commission
xxxxxx
Member of the Commission

[13] OJ L140, 05.06.2009, p.27
[14] OJ L176, 15.7.2003, p. 37–56

EN

ANNEX

FRAMEWORK

EU ECOLABEL CRITERIA

Criteria for awarding the EU Ecolabel to 'wood, cork and bamboo based floor covering' products

ASSESSMENT AND VERIFICATION

The specific assessment and verification requirements are indicated within each criterion.

Where the applicant is required to provide declarations, documentation, analyses, test reports, or other evidence to show compliance with the criteria, these may originate from the applicant and/or their supplier(s), etc., as appropriate.

Competent bodies shall preferentially recognise attestations which are issued by bodies accredited according to the relevant harmonised standard for testing and calibration laboratories and verifications by bodies that are accredited according to the relevant harmonised standard for bodies certifying products, processes and services.

Where appropriate, test methods other than those indicated for each criterion may be used if the competent body assessing the application accepts their equivalence.

Where appropriate, competent bodies may require supporting documentation and may carry out independent verifications or site visits.

Changes in suppliers and production sites pertaining to EU Ecolabel licensed products shall be notified to competent bodies, together with supporting information to enable verification of continued compliance with the criteria.

As pre-requisite, the product must meet all respective legal requirements of the country (countries) in which the product is intended to be placed on the market. The applicant shall declare the product's compliance with this requirement.

The following information shall be provided to the competent body:

(i) The full formulation of all raw material and substance indicating the trade name, chemical name, CAS no[15]., and the quantity (in concentration)

(ii) Safety data sheets (SDS) for each raw material (substance or mixture) in accordance with REACH[16].

In exceptional cases, if the information is not available at substance level, the applicant can supply the information for a mixture.

If a supplier prefers not to disclose the substances of a mixture to the applicant, the information can be sent directly to the competent body by the supplier;

[15] Chemical Abstract Service index number (CAS no). It is a unique numeric identifier, designates only one substance has no chemical significance, is a link to a wealth of information about a specific chemical substance.
[16] OJ L 396, 30.12.2006, p. 53

1. Product description

Technical description of the floor covering including drawings that illustrate the parts or materials that form the final floor covering product, its dimensions and a description of the manufacturing process shall be provided to the competent body. This description shall come along with the bill of materials for the product that shall state the total weight of the product itself and how this is split between the different materials used.

Compliance with the scope of the product group as defined in Article 1 shall be demonstrated

Assessment and verification

The applicant shall provide a declaration of compliance supported by the following information about the floor covering:

- brand/trade name[17]
- a description of the product including technical drawings that illustrate the parts or materials used in the final product
- the bill of materials: percentage composition of the raw materials, substances or mixtures in the final product in mass including any additive and surface treatment, when relevant.
- a description of the manufacturing process. Suppliers of raw materials or substances shall be described with the legal name, production site, contact details and description of the production step(s) they carried out or are part of.

The product data sheet, environmental product declaration (EDP) or equivalent document can be accepted for the compliance of this criterion if it includes the listed information is included.

2. Wood, cork, and bamboo based materials.

This requirement is applied to wood, wood-based, cork, cork-based, bamboo, bamboo-based materials weighting more than 1% of the finished product.

All wood, wood-based, cork, cork-based, bamboo, bamboo-based shall not originate from GMO species and be covered by chain of custody certificate issued by an independent third party certification scheme such as the Forest Stewardship Council (FSC), the Programme of the Endorsement of Forest Certification (PEFC) or equivalent

All virgin wood, cork and bamboo shall be covered by valid sustainable forest management certificates issued by an independent third party certification scheme such as FSC, PEFC or equivalent.

Where a certification scheme allows the mixing of uncertified material with certified and/or recycled materials in a product or production line, a minimum of 70% of the wood, cork and/or bamboo shall be sustainable certified virgin materials and/or recycled material

Uncertified material shall be covered by a verification system which ensures that it is legally sourced and meets any other requirement of the certification scheme with respect to uncertified material.

The certification bodies issuing forest and/or chain of custody certificates shall be accredited or recognised by that certification scheme.

Assessment and verification

The applicant shall provide a declaration of compliance supported by a valid, independently certified chain of custody certificate of the manufacturer for all wood, wood-based cork, cork-based, bamboo, bamboo-based material used in the product or production line and demonstrate that no virgin material is sourced from GMO species. The applicant shall provide audited accounting documents that

[17] Trade name means all names under which the substance is marketed within the Community market.

demonstrate that at least 70% of the materials originate from forests or areas managed according to Sustainable Forestry Management principles and/or from recycled sources that meet the requirements set out by the relevant independent chain of custody scheme. FSC, PEFC or equivalent schemes shall be accepted as independent third party certification

If the product or production line includes uncertified material, proof shall be provided that the content of uncertified virgin material does not exceed 30% and is covered by a verification system which ensures that it is legally sourced and meets any other requirement of the certification scheme with respect to uncertified material

3. General requirements for hazardous substances and mixtures

The presence in the product and any component parts thereof, of substances that are identified according to Article 59 (1) of Regulation (EC) No 1907/2006[18] as substances of very high concern (SVHCs) or substances or mixtures that meet the criteria for Classification, Labelling and Packaging (CLP) according to Regulation (EC) No 1272/2008[19] for the hazards listed in Table ~~2~~3.1, shall be restricted in accordance with criteria 3.a and 3.b. For the purpose of this criterion Candidate List SVHCs and CLP hazard classifications are grouped in Table 3.1 according to their hazardous properties.

Table 3.1 Grouping of restricted hazards

Group 1 Hazards – SVHC and CLP *Hazards that identify a substance as being within Group 1:* - substances that appear on the Candidate List for SVHCs - carcinogenic, mutagenic and/or toxic to reproduction (CMR) category 1A or 1B: H340, H350, H350i, H360, H360F, H360D, H360FD, H360Fd, H360Df
Group 2 Hazards – CLP *Hazards that identify a substance as being within Group 2*: - category 2 CMR: H341, H351, H361f, H361d, H361df, H362 - category 1 aquatic toxicity: H400, H410 - category 1 and 2 acuate toxicity: H300, H310, H330, H304 - category 1 aspiration toxicity: H304 - category 1 specific target organ toxicity (STOT): H370, H372 - category 1 skin sensitiser H317
Group 3 Hazards – CLP *Hazards that identify a substance as being within Group 3:* - category 2, 3 and 4 aquatic toxicity: H411, H412, H413 - category 3 acute toxicity: H301, H311, H331, EUH070 - category 2 STOT: H371, H373

3.a Restriction of SVHCs

The product and any component parts thereof shall not contain SVHC, at concentrations greater than 0.10% (weight by weight)

No derogation from this requirement shall be given to Candidate List SVHCs present in the product or any component parts thereof at concentrations greater than 0.10 % (weight by weight).

Assessment and verification

[18] OJ L 396 30.12.2006, p. 1.
[19] OJ L 353, 31.12.2008, p.1.

The applicant shall compile declarations of the absence of SVHCs at or above the specified concentration limit for the product and any component parts used in the assembly of the product. Declarations shall be with reference to the latest version of the Candidate List published by ECHA[20].

3.b Restriction of CLP classified substances or mixtures used in the floor covering

Substances or mixtures used by the floor covering manufacturer or his suppliers during the preparation of raw materials, manufacturing, assembly or any other treatment of the floor covering shall not be classified with any of the CLP hazards listed in Table 3.1. Restricted substances or mixtures shall include adhesives, paints, primers, varnishes, stains, resins, biocidal products (such as preservatives), fillers, waxes, oils, joint fillers, dyesand sealants.

However, the use of such restricted substances shall be permitted if one or more of the following conditions apply:

- that the restricted substance or mixture was used in quantities that amount to less than 0.10% of the total weight of the floor covering and/or
- that the restricted substance changes its properties upon processing (e.g. becomes no longer bioavailable or undergoes chemical reaction) so that the restricted CLP hazards no longer apply and that any unreacted residual content of the restricted substance is less than 0.10% of the total weight of the floor covering

Assessment and verification

The applicant and/or his suppliers shall provide a declaration of compliance with criterion 3.b. ~~2.2~~ supported, where appropriate, by a list of relevant substances or mixtures used together with declarations about their hazard classification or non-classification, their added quantities and if appropriate, statements whether the substances change their properties upon processing so that the restricted CLP hazards no longer apply. If so, the quantities of any unreacted residual content of the restricted substance shall be provided.

The following information shall be provided in relation to the hazard classification or non-classification for each of the substances:

i. the substance's CAS, EC or list number (where available for mixtures)
ii. the physical form and state in which the substance or mixture is used
iii. harmonized CLP hazard classifications
iv. self-classification entries in ECHA's REACH registered substance database[21] (if no harmonized classification available).
v. mixture classifications according to the criteria laid down in the CLP regulation.

When considering self-classification entries in the REACH registered substance database, priority shall be given to entries from joint submissions.
Where a classification is recorded as 'data-lacking' or 'inconclusive', according to the REACH registered substance database, or where the substance has not yet been registered under the REACH system, toxicological data meeting the requirements in Annex VII to Regulation (EC) No 1907/2006[22] shall be provided that are sufficient to support conclusive self-classification in accordance with Annex I to Regulation (EC) No 1272/2008[23] and ECHA's supporting guidance. In the case of 'data lacking' or "inconclusive" database entries, self-classifications shall be verified with the following information sources being accepted

i. Toxicological studies and hazard assessments by ECHA peer regulatory agencies[24], Member State regulatory bodies or Intergovernmental bodies;

[20] ECHA, Candidate List of substances of very high concern for Authorisation, http://www.echa.europa.eu/candidate-list-table.
[21] ECHA, REACH registered substances database: http://www.echa.europa.eu/information-on-chemicals/registered-substances.
[22] OJ L396, 30.12.2006, p. 316
[23] OJ L353, 31.12.2008, p. 36
[24] ECHA, Co-operation with peer regulatory agencies, http://echa.europa.eu/about-us/partners-and-networks/international-cooperation/cooperation-with-peer-regulatory-agencies.

ii. A Safety Data Sheet (SDS) fully completed in accordance with Annex II to Regulation (EC) No 1907/2006[25];
iii. A documented expert judgment provided by a professional toxicologist. This shall be based on a review of scientific literature and existing testing data, where necessary supported by results from new testing carried out by independent laboratories using methods approved by ECHA;
iv. An attestation, where appropriate based on expert judgment, issued by an accredited conformity assessment body that carries out hazard assessments according to the Globally Harmonized System (GHS) or CLP hazard classification systems

Information on the hazardous properties of substances may, in accordance with Annex XI to Regulation (EC) No 1907/2006[26], be generated by means other than tests, for instance through the use of alternative methods such as in vitro methods, by quantitative structure actively models or by the use of grouping or read-across.

4. Specific substance requirements

4. a) Contaminants in recycled wood, cork and bamboo

Any recycled fibres or chips used in the manufacture of the final floor covering product shall be tested in accordance with the European Panel Federation (EPF) standard for delivery conditions of recycled wood[27] and comply with the limits for contaminants as listed in Table 4.1.

Table 4.1. Limits for contaminants in recycled wood, cork, bamboo and their fibres or chips (mg/kg dry recycled material)

Contaminants	Limit values	Contaminants	Limit values
Arsenic (As)	25	Mercury (Hg)	25
Cadmium (Cd)	50	Fluorine (F)	100
Chromium (Cr)	25	Chlorine (Cl)	1000
Copper (Cu)	40	Pentachlorophenol (PCP)	5
Lead (Pb)	90	Tar oils (benzo(a)pyrene)	0.5

Assessment and verification:

The applicant shall provide:

- A declaration from the manufacturer that no recycled wood, cork, bamboo or their fibres or chips were used in the floor covering, or
- A declaration from the manufacturer that all recycled wood, cork, bamboo or their fibres or chips used have been representatively tested in accordance with the 2002 "EPF standard conditions for the delivery of recycled wood" supported by test reports that demonstrate compliance of the recycled samples with the limits specified in Table 4.1
- A declaration from the manufacturer that all recycled wood, cork, bamboo or their fibres or chips used have been representatively tested by equivalent standards that have equal or stricter limits than the 2002 "EPF standard conditions for the delivery of recycled wood", supported by appropriate test reports that demonstrate compliance of the recycled samples with the limits specified in Table 4.1

4.b) Biocidal products

The treatment of wood, cork and/or bamboo of the floor coverings with biocidal products (including preservatives) shall not be permitted.

[25] OJ L396, 30.12.2006, p. 267
[26] OJ L396, 30.12.2006, p. 371
[27] "EPF Standard for delivery conditions of recycled wood", October 2002. Can be viewed online at: http://www.europanels.org/upload/EPF-Standard-for-recycled-wood-use.pdf.

Active substances contained in biocidal products exclusively used for in-can preservation of water-based mixtures such as adhesives or lacquers shall however be exempt from this requirement.

Assessment and verification:

The applicant shall provide a declaration of non-use of biocidal products or, if applicable, a declaration supported by SDS from the in-can water-based mixtures' suppliers stating what active substances contained in biocidal products have been used in the in-can water-based mixtures.

4. c) VOC content in surface treatment

Surface treatment used on wood, wood-based, cork, cork-based, bamboo or bamboo-based materials shall either:

- Have a total VOC content of less than 5% by weight (in-can substance concentration), or
- Have a total VOC content greater than 5% by weight but be shown to be applied in quantities that amount to less than 2 g/m^2 of treated surface area

The criterion relates to the total VOC in the surface treatment products with the chemical composition they have in wet form. If the products require dilution before use, the calculation is to be based on the content in the dilutive product.

This criterion does not apply to mixtures used for repairing (eg knots, checks, bark inclusions, dents, etc) during the manufacturing process

Assessment and verification

The applicant shall provide a declaration of compliance with this criterion supported by the SDS of any surface treatment substances or mixtures used on wood, wood-based, cork, cork-based, bamboo or/and bamboo-based materials If the SDS states that the VOC content of the surface treatment substances or mixtures used is less than 5% by weight, then no further verification shall be necessary.

Should the VOC content information not be included in the SDS, the VOC content should be calculated from the list of substances in the surface treatment mixture The concentration of each VOC ingredient should be stated as a percentage by weight.

Alternatively, if the VOC content is higher than 5% by weight, then the applicant shall provide a calculation demonstrating that the effective quantity of VOC applied per m^2 of the treated surface area of the floor covering is less than 2g /m^2, in accordance with the guidance provided in Appendix I.

4.d) VOCs content in other used substances and mixtures

VOC content shall be less than:

- 3% by weight in in-can adhesives and/or resins used in manufacturing of the floor coverings,
- 1% by weight in other substances apart from in-can adhesives and/or resins and surface treatment (criterion 4.c) used in manufacturing of the floor coverings

Free-formaldehyde of liquid aminoplast resins used in manufacturing the floor coverings should be less than 0.2% weight by weight.

The criterion relates to the total VOC in the substances with the chemical composition they have in wet form. If the mixtures require dilution prior to use, the calculation is to be based on the content in the diluted product.

This criterion does not apply to mixtures used for repairing (eg knots, checks, bark inclusions, dents, etc) during the manufacturing process

Assessment and verification

The applicant shall provide a declaration of compliance with the criterion supported by the SDS of any in-can adhesive and/or resin or other substances used or an equivalent documentation that supports the declaration of compliance, together with a complete recipe with designation of quantities and CAS numbers.

If the SDS states that the VOC content is less than 3% by weight of the in-can adhesive and/or resin used or less than 1% by weight of other substances used, then no further verification shall be necessary.

Should the VOC content information not be included in the SDS, the VOC content should be calculated from the list of substances. The concentration of each VOC ingredient should be stated as a percentage by weight.

The applicant shall provide test reports demonstrating that the free-formaldehyde content in the liquid aminoplast resins is less than 0.2% weight by weight in accordance with EN1243

4.e) Heavy metals in paints, primers and varnishes

Any paints, primers or varnishes used on wood, wood-based, cork, cork-based, bamboo or bamboo-based materials shall not contain substances based on cadmium, lead, chromium VI, mercury, arsenic or selenium at concentrations exceeding 0.010% weight by weight for each individual metal in the in-can paint, primer or varnish formulation.

Assessment and verification

The applicant and/or his supplier, as appropriate shall provide a declaration of compliance with this criterion and provide the respective SDS from the suppliers of the paints, primers and varnished used.

4.f) Plasticisers

Any adhesive, resin or surface treatment substance or mixture shall not contain any phthalate plasticisers that are referred to in Article 57 of Regulation (EC) No 1907/2006[28]. The absence of these phthalates shall be considered as the total sum of the listed phthalates amounting to less than 0.10% of the adhesive, resin or surface treatment substance or mixture weight (1000mg/kg)

Assessment and verification

The applicant shall provide either:

- a declaration of compliance with the criterion from the supplier or the floor manufacturer stating that plasticizers were not used, or
- a declaration of compliance with the criterion from the supplier or the floor manufacturer stating that plasticizers were used and that none of the phthalate plasticisers with Article 57 hazard classifications have been used in the adhesive, resin or surface treatment substance or mixture

In the absence of a suitable declaration, adhesive, resin or surface treatment substance or mixture materials shall be tested for the presence of these phthalates according to ISO 8214-6 standard

4.g) Halogenated organic compounds

Halogenated organic compounds are not permitted in the substances used in the manufacture of floor coverings (eg as binders, flame retardants, adhesives, coatings, etc)

Assessment and verification

The applicant shall provide a declaration of compliance supported by a declaration of non-use of halogenated organic compounds from the manufacturer of the substances. In addition, the respective SDS of the substances shall be provided.

5. Energy consumption in the production process

The average annual energy consumed during the production of the floor coverings shall be calculated as indicated in Table 5.1 and Appendix II and shall exceed the following limits (E = score):

Product	E score

[28] OJ L396, 30.12.2006, p. 141

Solid wood floorings	> 11.0
Multi-layer wood floorings Mosaic wood floorings Cork floor coverings and cork tile floorings Bamboo floor coverings Laminate floorings	> 8.0

Table 5.1. Calculation of the scoring point

Formula		Environmental parameter		Maximum requirements
$E = \frac{A}{20} + \left(5 - \frac{B}{3}\right) + \left(5 - \frac{C}{7}\right)$	A	Proportion of renewable energy in the total annual energy consumption	%	--
	B	Annual electricity consumption	kWh/m^2	15 kWh/m^2
	C	Annual fuel consumption	kWh/m^2	35 kWh/m^2

Where

$$A = Proportion\ of\ renewable\ energy = \frac{\begin{array}{c} Renewable\ fuels\ \left(\frac{kWh}{m2}\right) + \\ +\ 1{,}25\ \left(on - site\ generated\ electricity\ from\ non - fuel\ RES\ \left(\frac{kWh}{m2}\right)\right) + \\ +\ 1{,}25\ (purchased\ electricity\ from\ RES\ \left(\frac{kWh}{m2}\right)) \end{array}}{\begin{array}{c} Renewable\ \ Fuels\ \left(\frac{kWh}{m2}\right) + Non - renewable\ \ Fuels\ \left(\frac{kWh}{m2}\right) + \\ +\ 1{,}25\ on - site\ generated\ electricity\ from\ non - fuel\ RES\ \left(\frac{kWh}{m2}\right) + \\ +1.25\ purchased\ electricity\ from\ RES\ \left(\frac{kWh}{m2}\right) \end{array}} x\ 100$$

B= Annual electricity consumption means the sum of the electricity purchased from an external supplier and the electricity produced on-site from non-fuel renewable energy sources (RES). If the electricity purchased is electricity from RES a factor of 0.8 shall be applied.

Electricity from RES shall be demonstrated by the guarantees of origin in accordance with the Directive 2009/28/EC[29]

C= Annual fuel consumption means the sum of all fuels purchased or sourced as by-products in the manufacturing of the floorings and used to generate energy on-site

The following is an indicative list of activities that shall be included and not included in the calculations of the energy consumption. Activities shall start at the reception of the fells in the manufacturer's or his suppliers facilities until the end of the manufacturing process.

E scoring shall be calculated per m^2 of produced flooring and shall account the direct energy consumed in the production of the flooring. Indirect energy consumption is not considered

Product	**Conditions for the electricity and fuel consumption (indicative list)**	
	Included	**Not included**

[29] OJ L140, 5.6.2009, p.16

Solid wood floorings	- drying, grinding and sawing - sizing and trimming - sanding - coating - packaging - and any other activity needed for manufacturing	
Mosaic wood floorings	- drying, grinding and sawing - sizing and trimming - sanding - pressing - coating - packaging - and any other activity needed for manufacturing	
Multi-layer wood floorings		
Cork and cork tile floor covings	- drying, grinding and sawing - sizing and trimming - sanding - pressing - or manufacturing of the core board if used in its structure - coating - packaging - and any other activity needed for manufacturing	- manufacture of lacquers or any other in-can preparation - energy consumed in the quality control activities - indirect energy consumption (eg heating, lighting, internal transportation, etc)
Bamboo floor coverings		
Laminate floorings	- drying, grinding and sawing - sizing - sanding - or manufacturing of the core board, the melamine layer and the decorative layer if provided -stacking with electronic precision - pressing - sizing and trimming - packaging - and any other activity needed for manufacturing	

Assessment and verification

The applicant should state and demonstrate:

- The type and quantity of electricity that has been, on average, purchased from an external supplier per year. Should electricity from RES be purchased, the guarantees of origin shall be provided.
- The type(s) of fuels and quantities that have been used in the manufacturing of the floor coverings by means of the contracts, bills or equivalent documentation that includes dates, quantity delivered/purchased and specifications of the fuel (eg physic-chemical properties, Low Heating Value (LHV), etc). Declaration of which of those used fuels are coming from RES in accordance with Renewable Energy Directive 2009/80/EC shall be included.
- The type and quantity of energy that has been sold. The calculations shall include the type and quantity of fuels, if any, used for generating the energy sold, the dates or periods of time in which it was generated and the selling dates.
- A declaration of the quantity of flooring that applies for the EU Ecolabel (in m^2) that has been, on average, annually produced.

The documents used to communicate the energy consumption, fuel purchase and/or energy generation as well as the documents to communicate flooring production to the national authorities can be used to demonstrate compliance with this criterion.

6. Emissions of VOC from the floor coverings

The floor coverings shall not exceed the emission values listed in Table 6.1 measured in a test chamber in accordance with CEN/TS16516. Packaging and delivery of samples sent for testing, their handling and conditioning shall follow the procedures described in the CEN/TS 16516.

Table 6.1. Emission requirements

Products	**Emission requirements**	
	Compound	Limit Value after 28 days storage in a ventilated test chamber (see CEN/TS16516) in mg/m^3 air[d]
Solid wood floorings Multi-layer wood floorings Mosaic wood floorings	Total VOC minus acetic acid (CAS 64-19-7)	< 0.3
Cork floor coverings Bamboo floor coverings Laminate floorings	Total VOC	
All floorings	Total SVOC	< 0.1
	R-value for LCI substances	≤1
	Carcinogenic substances	< 0.001

[d] The chamber test has to be carried out 28 days after the conclusion of the surface treatment. Up to this point in time the product to be tested is stored in a sealed package at the production site and thus delivered to the test laboratory

Assessment and verification

The applicant shall provide a declaration of compliance supported by the test reports from chamber tests carried out in accordance with CEN/TS16516 or equivalent method showing that the limits in the Table 6.1 have been met. Test reports shall include:

- The test method used,
- The test results and needed calculations showings the limits in Table 6.1

If the chamber concentration limits specified at 28 days can be met 3 days after placing the sample in the chamber, or any other time period between 3 and 27 days after placing the sample in the chamber, then the compliance with the requirements can be declared and the test may be stopped prematurely.

Test data from up to 12 months prior to the EU Ecolabel application shall be valid for products so long as no changes to the manufacturing process or chemical formulations used have been made that would be considered to increase VOC emissions form the final product.

A valid certificate from relevant indoor climate labels can also be used as proof of compliance if the indoor climate label fulfils the requirements of this criterion and if it is judge by the competent body to be equivalent

7. Emissions of formaldehyde from the floor covering

The floor covering manufactured by using formaldehyde-based adhesives or resins and/or formaldehyde-based finishing agents shall have either:

- formaldehyde emissions that are lower than 50% of the threshold value allowing them to be classified as E1
- formaldehyde emissions that are lower than 65% of the E1 threshold limit in case of having Medium Density Fibreboard (MDF) panels,
- formaldehyde emissions that are lower than the limits set out in the CARB Phase II or the Japanese F-3 star or F-4 star standards.

Assessment and verification:

The applicant shall provide a declaration of compliance with this criterion. The assessment and verification of low formaldehyde emission floor coverings shall vary depending on the certification scheme it falls under. The verification documentation required for each scheme is described in Table 7.1.

Table 7.1. Verification documentation of low formaldehyde emission floor coverings

Certification scheme	Assessment and verification
E1 (as defined in Annex B of EN 13986)	A declaration from the manufacturer, stating that the floor covering is compliant with 50% of E1 emission limits[30] or, in the case of floor coverings made of MDF panels, with 65% of E1 emission limits, supported by test reports carried out according to either EN 120, EN 717-2 or EN 717-1 or an equivalent method
CARB – Califonia Air Resources board: Phase II limits	A declaration from the manufacturer, supported by test results according to ASTM E1333 or ASTM D6007, demonstrating floor covering compliance with the formaldehyde Phase II emission limits defined in the California Composite Wood Products Regulation 93120[31]. The floor covering may be labelled in accordance with Section 93120.3(e), containing details in respect of the manufacturer's name, the product lot number or batch produced, and the CARB assigned number for the third party certifier (this part is not mandatory if the products are sold outside of California or if the products were made using no-added formaldehyde or certain ultra-low emitting formaldehyde-based resins).
F-3 or 4 star limtis	A declaration from the manufacturer of compliance with the formaldehyde emission limits as per JIS A 5905 (for fibreboard) or JIS A 5908:2003 (for particleboard and plywood), supported by test data according to the JIS A 1460 desicator method.

8. Fitness for use

Only the requirements associated with the specific type of flooring have to be fulfilled.

The floor coverings should be tested and classified in accordance with the latest versions of the standards and indications included in Table 8.1

Table 8.1. Standards for testing and classifying the floor coverings

Flooring	Test method	Classification
Factory lacquer solid, multilayer and mosaic wood floorings	prEN 13696	EN 14354,
Factory oiled, untreated wood and untreated multilayer wood flooring	prEN 13696 annex A	EN 14354
	Accompanying a recommendation for floor care to ensure that the durability of the floor will be maintained.	
Cork tile floor coverings	EN 12104	EN ISO 10874
Cork floor coverings	EN 660-1 for wearing group EN 425 for castor chair EN 425 for simulated movement of a furniture leg ISO 24343-1for residual indentation	

[30] The requirements apply to floor coverings with a moisture content of H=6.5%

[31] Regulation 93120 "Airborne toxic control measure to reduce formaldehyde emissions from composite wood products" California Code of Regulations.

Bamboo floor coverings	EN 1534 for resistance to indentation prEN 13696 for top layer thickness or wear layer	
Laminate flooring	EN 13329 EN 14978 EN 15468	EN ISO 10874

Floor coverings shall achieve at least:

- the level of use of class 22 (alternatively WR1) for floor coverings intended for private use
- the level of use of class 32 (alternatively WR2) for floor coverings intended for commercial use.

Assessment and verification

The applicant shall provide a declaration of compliance with the criterion. The declaration shall be supported by test reports that shall include:

- the type of flooring,
- the test method/s selected,
- the test results and the classification of the flooring according to the results and the appropriate standard.

If the floor covering has been tested according to a test method other than what is specified above, this may be acceptable if the test methods are comparable in the opinion of the competent body

9. Reparability and extended guarantee

Only the requirements associated with the specific type of flooring have to be fulfilled. For the purpose of undertaking repair and replacement of worn out parts, the floor covering shall meet the following requirements:

- Reparability: Information shall be included in the consumer instructions or the manufacturer's website to be accessible to the users and installers

a) *Design for repair and repair manual*: For floor coverings that are not glued down, the flooring shall be designed for disassembly with a view to facilitating repair, reuse and recycling. Simple and illustrated instructions regarding the disassembly and replacement of damaged elements shall be provided. Disassembly and replacement operations shall be capable of being carried out using common and basic manual tools. Information/recommendation of keeping spare panels in stock for possible event of repair shall be provided

b) *Repair Service / Information*: Information on how to obtain professional repairs, including contact details as appropriate

- Extended product guarantee:

c) The applicant shall provide at no additional cost a minimum of a five year guarantee effective from the date of delivery of the product. This guarantee shall be provided without prejudice to the legal obligations of the manufacturer and seller under national law.

Assessment and verification

The applicant shall provide a declaration of compliance supported by:

- A copy of the repair manual or the consumer instructions or any other material where the information on design for repair, repair services/information and advice on provision of spare parts is provided.
- A copy of the guarantee that indicates the terms and conditions of the extended product guarantee that are provided in consumer information documentation and that meet the minimum requirements set out in this criterion

10. Consumer information

The product shall be sold with the relevant consumer information on the packaging and/or any other documentation accompanying the product. Only the requirements associated with the specific type of flooring have to be fulfilled.

Instructions should be legible and be provided in the language of the country where the product is placed on the market or include graphical representation or icons and related to the following aspects:

- Information on the subgroup to which the product belongs (solid or multi-layer wood flooring, cork flooring, cork tile flooring, bamboo flooring, laminate flooring, etc), the amount of wood, cork or bamboo material in the final product in percentage and if a surface treatment is still needed at user's place

- Recommendations for the installation
All relevant instructions referring to the best environmental installation practices shall be included:

  - floating installation is recommended whenever possible. Reference shall be made to the necessary preparation of the underlaying surface and the auxiliary materials needed.
  - if glued down installation is recommended due to the possible longer duration, recommendation of using an adhesive/glue certified with a Type I Ecolabel or a low emission adhesive complying with EMICODE EC1 or equivalent should be included
  - illustrated assembly and disassembly instructions as per the requirements of criterion 9.a (if applicable)

- Recommendation for the surface treatment for unfinished floor coverings and floorings needing an oiled surface.

  - relevant information about the type and quantity of the surface treatment products needed (eg oil or lacquer) to achieve the intended durability.
  - relevant information about the finish of the floorings with low emitting finishes in accordance with the Directive 2004/42/EC (Paint Directive)
  - information about how the service life of the flooring can be extended through renovation e.g. sanding and surface treatment.

- Recommendations for the use, cleaning and maintenance of the product.

  - relevant information for routine cleaning shall be included if applicable to the floor covering type, with a mention to-cleaning products with a Type I ecolabel
  - maintenance instructions, including maintenance products, and products for occasional renovation or intensive cleaning. If possible, maintenance products with a Type I ecolabel should be recommended.
  - a clear statement of the flooring's areas of use and a statement of compliance with the relevant EN standards for the product as referred to in criterion 8

- Information related to the reparability:

  - a clear statement recommending the provision of spare parts as per the requirements of criterion 9.a.
  - relevant company contact information and/or any other relevant parties regarding repair or replacement services as per the requirements of criterion 9.b
  - relevant information regarding the terms and conditions of the product guarantee as per the requirements of criterion 9.c

- Information related to the end-of-life of the product: A detail description of the best ways to dispose of the product (i.e. reuse, recycling, energy recovery, etc) shall be given to the consumer, ranking them according to the impact on the environment.

Assessment and verification:

The applicant shall provide a declaration of compliance with the criterion supported by a copy of the consumer information document that is to be provided with the product. The copy shall ~~that~~ shows~~s~~ compliance with each of the points listed in the criterion, as appropriate

11. Information appearing on the EU Ecolabel

The logo should be visible and legible. The EU Ecolabel registration/licence number must appear on the product and must be legible and clearly visible.

The optional label with text box shall contain the following text:

- Wood, cork and/or bamboo from sustainably managed forests
- Lower energy consumption for manufacturing
- Low-emitting product

Assessment and verification:

The applicant shall provide a declaration of compliance with the criterion supported by a copy of the information appearing on the EU Ecolabel.

Appendix I. Guidance on the calculation of the quantity of VOC applied

The requirement relates to the total VOC in the surface treatment products with the chemical composition they have in the wet form. If the products required dilutions, the calculation is to be based on the content in the dilutive product.

This method is based on the application method that calculates the quantities applied per m^2 surface area. It determines the content of the organic solvents as a percentage of quantity of the surface treatment applied.

The applied quantity of VOC is calculated using the following formula

$$\sum_{n=1}^{i} Quantity\ of\ surface\ treatment\ product\ x\ \%\ VOC\ x\ surface\ treatment\ efficacy$$

The formula consists in:

- Quantity of surface treatment product: Per each coating applied the amount of surface treatment fed in the system should be reported in g/m^2.
- The proportion of VOC in the surface treatment products: the concentration is to be stated as a percentage by weight,
- The surface treatment efficiency that depends on the application method. The efficacy is tabled in accordance with the state-of-the-art of the surface treatment industry as shown in Table 4.2.
- The sum of all the coatings applied.

Table 4.2. Efficacy of the surface treatments

Surface treatment	Efficiency	Surface treatment	Efficiency
Automatic spray application, no recycling	50%	Roller coating	95%
Automatic spray application with recycling	70%	Curtain coating	95%
Spray application, electrostatic	65%	Vacuum coating	95%
Spray application, bell/disc	80%		

Appendix II. Guidance for calculating the energy consumption in the production process

Energy consumption per flooring m^2 is calculated as an annual arithmetic average of the last three years. Should the company not have these data, the competent bodies will assess the acceptance of equivalent data

If the producer has an energy surplus that is sold as electricity, steam or heat, the sold quantity can be deducted from the fuel consumption. Only fuel that is actually consumed in the manufacture of the floor covering[32] is to be included in the calculation.

Energy consumption is reported in kWh/m^2, although calculations may also be made in MJ/m^2 (1 kWh=3.6 MJ).

The energy content of the fuels is calculated based on the table 4.2. If electrical energy is produced on-site, one of the following methods can be used for calculating fuel consumption;

- Actual annual consumption of fuel,
- Consumption of electricity produced on-site multiple by 1.25, if the origin is a non-combustible renewable source.

Values of the energy consumption and should be calculated by means of the standard fuel values. The energy contents of various fuels are given in Table 5.2.

Table 5.2. Standard fuel values[33]

Fuel	MJ/kg	Fuel	MJ/kg
Petrol	44.0	Pellets (7% W)	16.8
Diesel		Peat	7.8-3.8
LPG	45.2	Straw (15% W)	
Eo1 oil	42.3	Biogas	
Eo5 oil	44.0	Wood chips (25%W)	13.8
Natural gas	47.2	Waste Wood	
Power station coal	28.5	*GJ/ton is equivalent to MJ/kg*	

(% W) is the percentage by weight of water in the fuel and given the letter f in the formulas below. If nothing else is stated, f = 0% W and the ash content is average.

The formula for calculating the energy content of woodchips depends on the water content. Energy is required to evaporate the water in the wood. This energy reduces the heat value of the woodchips. The energy content can be calculated as:

$$\text{Woodchip} = 19.0\ \left(\frac{\text{MJ}}{\text{kg}}\right) - 21.442 \times \frac{\text{f}}{100}$$

Where f is the water content in %W of the wood. The factor 21.442 is the sum of water's heat of evaporation (2.442MJ/kg) and the energy content of dry wood 19.0 MJ/kg. If the applicant has laboratory analyses of the heat value of a fuel, the competent bodies may consider using this heat value for calculating the energy content.

[32] Manufacture of the floor covering included energy used in the production line as well as other auxiliaries (eg lighting, heating, energy consumed in offices, etc)

[33] There values are reported by the Energy Efficiency Directive 2012/27/EC, Chapter IV, "Energy content of selected fuels for end users". OJ L 315, 14.11.2012 p.1

Appendix III List of standards

Table xx. Indicative list of EN standards relevant to criteria

Standard	Title
Floor covering definitions	
EN 12466	Resilient floor coverings - vocabulary
EN 13329	Laminate flooring. specifications, requirements and test methods
prEN 13756	Wood flooring - terminology
ISO 14021	Environmental labels and declarations - Self-declared environmental claims (Type II environmental labelling)
Volatile organic compound emissions	
CEN/TS 16516	Construction products – Assessment and release of dangerous substances- Determination of emissions into indoor air
EN 717-1	Wood-based Panels – Determination of Formaldehyde Release – Formaldehyde emission by the chamber method
EN 717-2	Wood-based Panels – Determination of Formaldehyde Release – Formaldehyde release by the gas analysis method
EN 120	Wood-based panels – Determination of formaldehyde content – Extraction method called the perforator method
EMICODE	http://www.emicode.com/en/emicode-r/
Raw materials	
EPF	EPF Standard for delivery conditions of recycled wood", October 2002. http://www.europanels.org/upload/EPF-Standard-for-recycled-wood-use.pdf
EN 1243	Adhesives. Determination of free formaldehyde in amino and amidoformaldehyde condensates
ISO 8214-6	Safety of toys -- Part 6: Certain phthalate esters in toys and children's products
Fitness for use	
EN 425	Resilient and laminate floor coverings. Castor chair test
EN 660-1	Resilient floor coverings. Determination of wear resistance. Stuttgart test
EN 1543	Products and systems for the protection and repair of concrete structures. Test methods. Determination of tensile strength development for polymers
EN ISO 10874	Resilient, textile and laminate floor coverings -- Classification
EN 12104	Resilient floor coverings. Cork floor tiles. Specification
EN 13329	Laminate floor coverings. Specifications, requirements and test methods
prEN 13696	Wood flooring. Test methods to determine elasticity and resistance to wear and impact resistance
EN 14354	Wood-based panels - Wood veneer floor coverings
EN 14978	Laminate floor coverings - Elements with acrylic based surface layer, electron beam cured - Specifications, requirements and test methods
EN 15468	Laminate floor coverings. Elements with directly applied printing and resin surface layer. Specifications, requirements and test methods
ISO 24343-1	Resilient and laminate floor coverings - Determination of indentation and residual indentation - Part 1: Residual indentation