

Brussels, **XXX**
[...] (2016) **XXX** draft

COMMISSION DECISION

of **XXXX**

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

(Text with EEA relevance)

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EU Ecolabel for Wood, wood-based, cork, cork-based, bamboo and bamboo-based floor coverings

(Text with EEA relevance)

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 Ecolabel¹, 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, wood-based, cork, cork-based, bamboo 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 appropriate to modify the name and scope of the product group and to establish a revised set of ecological criteria.
- (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 six years from the date of adoption of this Decision, taking into account the innovation cycle for this product group.
- (5) Decisions 2010/18/EC and 2013/295/EU should therefore be replaced
- (6) **It is appropriate 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, wood-based, cork, cork-based, bamboo 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, bamboo-based and/or plant-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**

Assessment and verification

The applicant shall provide the following information about the floor covering:

- brand/trade name¹
- a description of the product and the raw materials or substances involved: percentage composition of the raw materials or substances in the flooring if possible in mass including any additive and surface treatment, when relevant.
- a description of the manufacturing procedure. Suppliers of raw materials or substances shall be described with the name of the business, 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.

Article 2

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

1. "Wood flooring" means, in accordance with prEN 13756, an assembly of wood elements pre-assembled boards or parquet panels which constitute the wearing surface of the floor. 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 floorings" means in accordance with EN 13329 '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. "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.

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 made of bamboo in solid pieces or in agglomerates mixed with a binder

5. "Volatile organic compound" (VOC) means any organic compound having an initial boiling point of less than or equal to 250°C measured at a standard pressure of 101.3 kPa as defined in Directive 2004/42/EC of the European Parliament and of the Council² and which, in a capillary column, are eluting up to and including tetradecane (C₁₄H₃₀);

6. "Semi volatile organic compound" (SVOC) means any organic compound having a boiling point of greater than 250 °C and less than 370 °C measured at a standard pressure of 101,3 kPa and which, in a capillary column are eluting with a retention range after n-tetradecane (C₁₄H₃₀) and including n-Docosane (C₂₂H₄₆);

² Directive 2004/42/CE of the European Parliament and of the Council of 21 April 2004 on the limitation of emissions of volatile organic compounds due to the use of organic solvents in certain paints and varnishes and vehicle refinishing products and amending Directive 1999/13/EC (OJ L 143, 30.4.2004, p. 83).

7. "Impurity" means another term added to the EU Ecolabel criteria set. 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 substances. Substances known to be degradation products of the constituent substances are also themselves considered to be constituent substances.

8. "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.

9. "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 composition³

10. "Mixture" means a mixture or solution composed of two or more substances as defined in Article 3(2) or Regulation (EC) No 1907/2006⁴

11. "Biocidal product" means, in accordance with Article 3(1)(a) of Regulation (EU) No 528/2012⁵,

- 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

12. "Preservative" means, in accordance with Annex V of Regulation (EU) No 528/2012⁶, 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.

13. "Active substance" means, in accordance with Article 3(1)(c) of Regulation (EU) No 528/2012⁷, a substance or a micro-organism that has an action on or against harmful organisms.

14. "Manufacturer" means any natural or legal person established within the Community who manufactures a substance within the Community

15. "Supplier of a substance or mixture" means any manufacturer, downstream user or distributor placing on the market a substance, on its own or in a mixture, or a mixture

16. "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 sawmilling operations, as defined in ISO 14021

³ Regulation (EC) No 1907/2006 of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) and establishing a European Chemicals Agency (OJ L136, 29.05.2008, p.19)

⁴ Regulation (EC) No 1907/2006 of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) and establishing a European Chemicals Agency (OJ L136, 29.05.2008, p.xx)

⁵ Regulation (EU) No 528/2012 of the European Parliament of the Council of the 22 May 2012 concerning the making available on the market and use of biocidal products (OJ L167, 27.06.2012 p.9)

⁶ Regulation (EU) No 528/2012 of the European Parliament of the Council of the 22 May 2012 concerning the making available on the market and use of biocidal products (OJ L167, 27.06.2012 p.105)

⁷ Regulation (EU) No 528/2012 of the European Parliament of the Council of the 22 May 2012 concerning the making available on the market and use of biocidal products (OJ L167, 27.06.2012 p.10)

17. "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;

18. "Plant-based material" means material made by wood, cork or bamboo as well as materials made by binding with adhesives and/or glues with one or more of the following materials: wood fibres, and/or stripped or sheared wood sheets, and/or wood residues from forests, plantations, sawn wood, residues from pulp/paper industry, recycled wood, cork fibres, recycled cork, bamboo fibres, and/or recycled bamboo.

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

20. "E1" means a formaldehyde emission threshold limit adopted across EU Member States for emissions from wood based panels, according to the definition provided in Annex B to EN 13986. The threshold limit is considered as being equivalent to steady state concentrations of 0.1ppm (0.124 mg/m³) of formaldehyde after 28 days of a chamber test carried out according to EN 717-1. The E1 limit is also considered as equivalent to a formaldehyde content of 8mg/100 g oven dry board when measured according to EN 120 and as equivalent to overall emissions rates of 3.5-8.0 mg/m²h according to EN 717-2 or 5.0-12.0 mg/m²h within 3 days after production.

Article 3

In order to be awarded the Regulation (EC) No 66/2010, a product shall fall within the product group "Wood, wood-based, cork, bamboo and plant-based floor coverings" 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, wood-based, cork, bamboo and plant-based floor coverings", and the related assessment and verification requirements shall be valid for six years from the date of adoption of this Decision.

Article 5

For administrative purposes, the code number assigned to the product group "Wood, wood-based, cork, bamboo and plant-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

EN

ANNEX

FRAMEWORK

EU ECOLABEL CRITERIA

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

1. Certified wood, wood-based, cork, cork-based, bamboo and bamboo-based materials
2. General hazardous substance requirements
3. Specific substance requirements
4. Energy consumption during the production process
5. Formaldehyde emissions from the floor coverings
6. VOC emissions from the floor coverings
7. Fitness for use
8. Reparability and extended guarantee
9. Consumer information
10. Information appearing on the EU Ecolabel

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

Appendix II Guidance for calculating the process energy use

ASSESSMENT AND VERIFICATION REQUIREMENTS

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

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 the flooring indicating for each raw material or substance the trade name, chemical name, CAS noⁱⁱ., and the quantity (in concentration)
- (ii) Safety data sheets (SDS) for each raw material (substance or mixture) in accordance with REACH.
- (iii) If a supplier prefers not to disclose the substances of a mixture to the applicant, the information can be sent directly by the supplier to the Competent Body by the supplier;
- (iv) In exceptional cases, if the information is not available at substance level, the applicant can supply the information for a mixture.

1. Certified wood, wood-based, cork, cork-based, bamboo and bamboo-based materials.

All wood, wood-based cork, cork-based, bamboo, bamboo-based and plant-based materials weighting more than 1% of the finished product shall be covered by chain of custody certificates 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.

When certification schemes allow 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 valid, independently certified chain of custody certificates for all wood, wood-based cork, cork-based, bamboo, bamboo-based and plant-based material, used in the product or production line and demonstrate that at least 70% of the materials originates from forests and/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

2. General hazardous substance requirements.

The presence in the product of substances that are identified according to Article 59 (1) of Regulation (EC) No 1907/2006 of the European Parliament and of the Council⁸ 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 of the European Parliament and of the Council⁹ for the hazards listed in Table 2.1, shall be restricted in accordance with criteria 2.1 and 2.2.

⁸ Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC (OJ L 396 30.12.2006, p. 1).

⁹ Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 (OJ L 353, 31.12.2008, p.1).

Table 2.1 Grouping of restricted hazards

<p>Group 1 Hazards – SVHC and CLP <i>Hazards that identify a substance as being within Group 1:</i> - substances that are considered SVHC in accordance with article 57 (d), (e) and (f) of Regulation (EC) No 1907/2006 - category 1A or 1B CMR*: H340, H350, H350i, H360F, H360D, H360FD, H360Fd, H360Df</p>
<p>Group 2 Hazards – CLP <i>Hazards that identify a substance as being within Group 2:</i> - category 2 CMR*: H341, H351, H361f, H361d, H361df, H362 - category 1 aquatic toxins: H400, H410 - category 1 and 2 acute toxins: H300, H310, H330, H304 - category 1 STOT*: H370, H372 - category 1 skin sensitiser H317</p>
<p>Group 3 Hazards – CLP <i>Hazards that identify a substance as being within Group 3:</i> - category 2, 3 and 4 aquatic toxins: H411, H412, H413 - category 3 acute toxins: H301, H311, H331, EUH070 - category 2 STOT*: H371, H373</p>

*CMR= carcinogenic, mutagenic or toxic to reproduction; STOT= specific target organ toxicity

2.1 Restriction of SVHCs

The floor covering shall not contain SVHC at concentrations **in the final product** greater than 0.10% (weight by weight)

Assessment and verification

The applicant shall provide a declaration of compliance for the product supported, where relevant, by declarations from any supplier(s) regarding the non-presence of SVHCs at concentrations greater than 0.10% (weight by weight). Declarations shall be with reference to the latest version of the Candidate List published by ECHA¹⁰.

2.2 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 2.1. Restricted substances **or mixtures** shall include adhesives, paints, primers, varnishes, stains, preservatives, resins, **active substances of biocidal products [or biocidal products]**, fillers, waxes, oils, joint fillers, dyestuff and 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 2.2 supported by a list of relevant substances **or mixtures** used together with declarations about their hazard classification or non-classification, **their added quantities and if the substances change their**

¹⁰ ECHA, Candidate List of substances of very high concern for Authorisation, <http://www.echa.europa.eu/candidate-list-table>.

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 database¹¹ (if no harmonized classification available).

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', or where the substance has not yet been registered under the REACH database, the self-classifications shall be verified, with the following information sources being accepted:

- i. Toxicological studies and hazard assessments by ECHA peer regulatory agencies¹², Member State regulatory bodies or Intergovernmental bodies;
- ii. A SDS fully completed in accordance with Annex II to Regulation (EC) No 1907/2006;
- 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) of the classification and labelling of chemicals.

3. Specific substance requirements

3. a) Elements and compounds in recycled wood, cork and bamboo

Any recycled fibres or chips used in the manufacture of panels included in the final floor covering product shall be tested in accordance with the European Panel Federation (EPF) standard for delivery conditions of recycled wood¹³ and comply with the limits for contaminants as listed in Table 3.1.

Table 3.1. Limits for contaminants in recycled wood, cork, bamboo and their fibres or chips (mg/kg dry panel)

Elements	Limit values	Elements and compounds	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

¹¹ ECHA, REACH registered substances database: <http://www.echa.europa.eu/information-on-chemicals/registered-substances>.

¹² ECHA, Co-operation with peer regulatory agencies, <http://echa.europa.eu/about-us/partners-and-networks/international-cooperation/cooperation-with-peer-regulatory-agencies>.

¹³ "EPF Standard for delivery conditions of recycled wood", October 2002. Can be viewed online at: <http://www.europanel.org/upload/EPF-Standard-for-recycled-wood-use.pdf>.

Assessment and verification:

The applicant shall provide:

- i. A declaration from the panel supplier that no recycled wood, cork, bamboo or their fibres or chips were used in the panel, or
- ii. A declaration from the panel supplier 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 3.1
- iii. A declaration from the panel supplier that all recycled wood, cork, bamboo or their fibres 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 test reports that demonstrate compliance of the recycled samples with the limits specified in Table 3.1

If it can be proved that the substances indicated have not been used in any previous preparation or treatment, the application of test to demonstrate compliance with this requirement can be avoided

3.b) Biocidal products

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

Assessment and verification:

The applicant shall provide a declaration of non-use of preservatives

The use of other biocidal products shall not be permitted. 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 either:

- i. provide a declaration of non-use of biocidal products
- ii. provide a declaration stating what active substances contained in biocidal products have been used in in-can water-based substances supported by SDS from the in-can water-based substances' suppliers.

3.c) Flame retardants

The use of flame retardants shall not be permitted

Assessment and verification

The applicant shall provide a declaration of non-use of flame retardants

3.d) VOCs content in substances and mixture used (in-can concentrations) apart from those used for surface treatment

In-can adhesives and/or resins used in manufacturing of the floor coverings should have

- VOC content of less than 3% by weight,
- Free-formaldehyde* of less than 0.2% by weight.

Other substances apart from in-can adhesives and resins and surface treatment (criterion 3.f) used in manufacturing of the floor coverings should have VOC content less of than 1% by weight.

The criterion relates to the total VOC in the substances with the chemical composition they have in wet form. If the products 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 the knots during the manufacturing process

Assessment and verification

The applicant shall provide the SDS of any in-can adhesive or resin or other substances used or an equivalent declaration of compliance with this requirement, 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 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. Confidential details from the manufacturers in the form of content declarations/formulations can be sent directly to the respective Competent Body.

The applicant shall provide test reports demonstrating that the free-formaldehyde content in the in-can adhesives and resins is less than 0.2% wt in accordance with prEN ISO 11402

3. e) VOC content in surface treatment

Surface treatment chemicals used on wood, wood-based, cork, bamboo or plant-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 2g/m² 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, the calculation is to be based on the content in the dilutive product.

Assessment and verification

The applicant shall provide the SDS of any surface treatment substances used on wood, wood-based, cork, bamboo or/and plant-based materials. If the SDS states that the VOC content of the surface treatment products 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 of the surface treatment chemicals. The concentration of each VOC ingredient should be stated as a percentage by weight. Confidential details from manufacturer/s in the form of content declarations/formulations can be sent directly to the respective Competent Body.

Alternatively, if the VOC content is higher, then the applicant shall provide a calculation demonstrating that the effective quantity of VOC applied per m² of the treated surface area of the floor covering is less than 2g/m², in accordance with the guidance provided in Appendix I.

This criterion does not apply to mixtures used for repairing the knots during the manufacturing process

3.f) Heavy metals in paints, primers and varnishes

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

Assessment and verification

The applicant shall provide a declaration of compliance with this criterion and provide the respective SDS from the suppliers of the paints, primers and varnishes used.

3.g) Plasticizers

Any plastic foils applied to panel surfaces shall not contain any phthalate plasticisers that are referred to in Article 57 of Regulation (EC) No 1907/2006. The absence of these phthalates shall be considered as the total sum of the listed phthalates amounting to less than 0.10% of the plastic foil weight (1000mg/kg)

Assessment and verification

The applicant shall provide either:

- i. a declaration from the panel supplier stating that plastic foils were not used, or
 - ii. a declaration from the panel supplier stating that plastic foils were used and that none of the phthalate plasticisers with Article 57 hazard classifications have been used in the plastic foil.
- In the absence of a suitable declaration, plastic foil materials shall be tested for the presence of these phthalates according to ISO 14389 or ISO 8214-6 standard

3.h) 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 non-use of halogenated organic compounds, if so supported by the manufacturer of the substances. In addition, the respective SDS of substances shall be provided.

4. Energy consumption in the production process

The average annual energy consumed for the production of the floor coverings shall be calculated as indicated in Table 4.1 and Appendix II and shall exceed the following limits (E = score):

- E > 11.0 for wood floorings (one single solid layer)
- E > 8.0 for multi-layer wood floorings, bamboo and cork floor coverings and laminate floor coverings

Table 4.1. 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	%	--
	B	Electricity consumption	kWh/m ²	15 kWh/m ²
	C	Fuel consumption	kWh/m ²	35 kWh/m ²

Where

A= Proportion of renewable energy =

$$\frac{\text{Renewable fuels } \left(\frac{\text{kWh}}{\text{m}^2}\right) + 1,25 \text{ non-fuel renewable energy } \left(\frac{\text{kWh}}{\text{m}^2}\right)}{\text{non-renewable fuels } \left(\frac{\text{kWh}}{\text{m}^2}\right) + \text{Renewable fuels } \left(\frac{\text{kWh}}{\text{m}^2}\right) + 1,25 \text{ non-fuel renewable energy } \left(\frac{\text{kWh}}{\text{m}^2}\right)} \times 100$$

B= Electricity consumption means the sum of the electricity purchased from an external supplier and the electricity produced on-site from non-combustible renewable energy sources. If the electricity purchase is green electricity a factor of 0.8 should be applied.

Green electricity should be demonstrated by the guarantees of origin in accordance with the Directive 2009/28/ECⁱⁱⁱ

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

The following conditions shall be included in the calculations

- for solid wood floorings and bamboo floorings the electricity and fuel consumed in drying, grinding and sawing shall be included
- for cork and laminate floorings that may include a core board in their structure, the energy consumed in the manufacture of the board is to be included
- energy consumption in the manufacture of adhesives, lacquers or any other in-can preparation used in the manufacture of the flooring is not included in the calculation
- E scoring shall be calculated per m² of produced flooring and accounting the direct and indirect energy consumed in the production of the flooring (eg energy consumed in pressing, proportional energy consumed for heating and lighting of the facilities, etc)

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 green electricity 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, LHV, etc). Declaration of which of those used fuels are coming from renewable sources in accordance with Renewable Energy Directive 2009/80/EC shall be included.
- The type and quantity of energy that has been sold. The calculations should 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 m²) 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.

5. 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 either:

- have formaldehyde emissions that are lower than 50% of the threshold value allowing them to be classified as E1¹⁴ (0.067mg/m³ or 4mg/100g dry mass)^{iv}.
- have formaldehyde emissions that are lower than 65% of the E1 threshold limit (0.08mg/m³ or 5mg/100g dry mass) in case of having Medium Density Fibreboard (MDF) panels,
- have formaldehyde emissions that are lower than the limits set out in the CARB Phase II or
- have formaldehyde emissions that are lower than the limits set out in 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 5.1.

¹⁴ E1 is a threshold emission limit originally introduced in 1985 in the EU due to concerns over adverse health effects due to formaldehyde exposure. The emission limits are defined in Annex B of EN 13986 and correspond to steady state background levels of 0.1ppm (or 0.124mg/m³) formaldehyde after 28d in a chamber test according to EN 717-1.

Table 5.1. Assessment and verification 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 ^v 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 717-1, EN 717-2 or EN 120 or an equivalent method
CARB – California Air Resources board: Phase II limits	A declaration from the manufacturer , supported by third party verified 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 ^{vi} . Optionally, 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 required if the products were made using no-added formaldehyde or certain ultra-low emitting formaldehyde-based resins).
F-3 or 4 star limits	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 third party verified test data according to the JIS A 1460 desicator method.

The declarations shall be accompanied by the analysis reports including which testing method/standard was used, measurement results and measurement frequency

6. VOC emissions from the floor coverings

The [laminate](#), [cork](#) and [bamboo](#) floor coverings shall not exceed the emission values listed in Table 6.1 and the [wood floor coverings](#) shall not exceed the emission values listed in Table 6.2 measured in a test chamber in accordance with CEN/TS16516

Table 6.1. Emission requirements for laminate, cork and bamboo floor coverings

Compound or substance	Limit Value after 28 days storage in a ventilated test chamber (see CEN/TS16516) in mg/m ³ air ^d
Total VOC ^a	< 0.3
Total SVOC ^b	< 0.1
R-value for LCI substances ^c	≤ 1

Table 6.2. Emission requirements for wooden floor coverings

Compound or substance	Limit Value after 28 days storage in a ventilated test chamber (see CEN/TS16516) in mg/m ³ air ^d
Total VOC ^a – [acetic acid] (CAS 64-19-7) ^e	< 0.3
Total SVOC ^b	< 0.1
R-value for LCI substances ^c	≤ 1

^a TVOC: total volatile organic compounds, defined as those compounds within the retention range of n-C₆ to n-C₁₆ (inclusive).

^b TSVOC: total volatile organic compounds, defined as those compounds within the retention range of >n-C₁₆ to n-C₂₂ (inclusive)

^c R value is the sum of all Ri values where Ri value is the ratio Ci / LCIi, where Ci is the chamber mass concentration of compound i, and LCIi is the LCI value of compound i defined under the European Collaborative Action "urban air", indoor environment and human exposure

^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

emissions of acetic acid from the natural wood the floor covering is made of and measured in accordance with CEN/TS 16516 (same conditions as the tests for the finished product)

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 above have been met.

Test reports showing that the limits in the Table 6.1 or Table 6.2 are met shall include:

- which test method was used,
- test results for laminate floorings, cork and bamboo floorings and those floor coverings that comply with Table 6.1. For wooden floor coverings complying with Table 6.2, test results of the untreated and treated wooden floor coverings together with the needed calculations to demonstrate compliance should be provided.

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 from 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. Fitness for use

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

The floor coverings should be tested and classified in accordance with the latest versions of the standards and indications included in Table 7.1

Table 7.1. Standards for testing and classifying the floor coverings

Flooring	Test method	Classification
Laminate flooring	EN 13329 EN 14978 EN 15468	EN ISO 10874
Cork tile	EN 12104	Cork flooring classification properties EN 14085
Cork flooring	??	
Bamboo	EN 14354 for resistance to abrasion and impact resistance	
Factory lacquer wood floorings	EN 13696 for wear resistance	EN 14354, Wear resistance in appendix D3.7 ^{vii}
Multilayer wood floorings		
Factory oiled, untreated wood and untreated multilayer wood flooring	EN 13696 annex A	EN 14354
	Accompanying a recommendation for floor care to ensure that the durability of the floor will be maintained.	

The wear resistance of floor coverings other than those mentioned above shall be tested according to test methods selected by an independent test institute specialized in wear tests for flooring. The test methods shall be selected taking into account the intended use area of the flooring.

Assessment and verification

The applicant shall provide a declaration stating which (if any) standards applied to the product and provide a declaration of compliance with this criterion. 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 an independent third party

8. Reparability and extended guarantee

For the purpose of undertaking repair and replacement of worn out parts, the floor covering shall meet the following requirements:

- Reparability:

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.

b) *Repair Service / Information*: Information should be included in the consumer instructions or the manufacturer's website to let the user know how to obtain professional repairs, including contact details as appropriate

c) *Advice on provision of spare parts*: Information/recommendation to the end-users of keeping spare panels in stock for possible event of repair shall be provided

- Extended product guarantee;

a) 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:

i. 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.

ii. 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

9. 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:

- a) **Recommendations for the installation**, including all relevant instructions referring to the best environmental installation practices
- *floating installation* is recommended whenever possible as it is easier, quicker and environmentally-friendly in respect to the end-of-life phase. If floating installation is recommended, reference should 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
 - well illustrated assembly and disassembly instructions as per the requirements of criterion 8 (if applicable)
- b) **Recommendations for the use, cleaning and maintenance of the product.**
- relevant information for *routine cleaning* including a mention of the most recommended cleaning products. If possible, cleaning products with a Type I ecolabel should be recommended.
 - relevant information for *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 7
- c) **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 the floorings with low emitting finishes in accordance with the Directive 2004/42/EC (Paint Directive)
 - information should be included about how the service life of the flooring can be extended through renovation e.g. sanding and surface treatment.
- d) **Information related to the reparability:**
- relevant information regarding the terms and conditions of the product guarantee as per the requirements of criterion 8
 - relevant company contact information and/or any other relevant parties regarding repair or replacement services as per the requirements of criterion 8
 - a clear statement recommending the provision of spare parts.
- e) 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 copy of the consumer information document that is to be provided with the product that shows compliance with each of the points listed in the criterion, as appropriate

10. 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 subgroup to which the product belongs (engineered wood, solid wood, laminate, cork or bamboo flooring) and if a surface treatment is still needed at user's place should be stated*

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

- Limited hazardous substances used,
- Low-emitting product (50% or 65% E1)
- Lower energy consumption for manufacturing

Assessment and verification:

The applicant shall provide a copy of the information showing compliance with this criterion.

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 m² 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

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

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/m².
- 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 3.2.
- The sum of all the coatings applied.

Table 3.2. 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 process energy use

Energy consumption per flooring m² 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^{viii} is to be included in the calculation.

Energy consumption is reported in kWh/m², although calculations may also be made in MJ/m² (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 4.2.

Table 4.2. Standard fuel values^{ix}

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	<i>GJ/ton is equivalent to MJ/kg</i>	

(% 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:

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

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.

ⁱ Trade name means all names under which the substance is marketed within the Community market.

ⁱⁱ Chemical Abstract Service index number. 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.

ⁱⁱⁱ Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC, L 140/16, OJEU 5.6.2009

^{iv} E1 is a threshold emission limit originally introduced in 1985 in the EU due to concerns over adverse health effects due to formaldehyde exposure. The emission limits are defined in Chapter B of EN 13986 and correspond to steady state background levels of 0.1ppm formaldehyde after 28d in a chamber test according to EN 717-1.

^v The requirements apply to floor coverings with a moisture content of H=6.5%

^{vi} Regulation 93120 "Airborne toxic control measure to reduce formaldehyde emissions from composite wood products" California Code of Regulations.

^{vii} Floorings intended for private use shall achieve class WR1 and flooring intended for commercial use shall achieve WR2

^{viii} 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)

^{ix} These values are reported by the Energy Efficiency Directive 2012/27/EC, Chapter IV, "Energy content of selected fuels for end users". Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC, L 315/1, OJEU 14.11.2012