

natureplus e.V.

Award Guideline 1204

Fibre-Board Backed Linoleum Floor Coverings

Issued: June 2015

For the Awardance of the Eco-Label





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1. Application Areas

The following criteria contain the requirements for the awardance of the natureplus eco-label for linoleum floor coverings on HDF-boards which have not been subject to surface treatments. The boards must be manufactured from ligno-cellulose fibres according to the drying process without chemical preservative treatments in accordance with the requirements of EN 316 (“Wood fibreboards - Definition, classification and symbols”) and EN 622-5 (“Fibreboards - Specifications - Part 5: Requirements for dry process boards (MDF)”) or with a general Building Inspectorate approval as a bearer material.

2. Award Criteria

A pre-requirement for the awardance of the natureplus eco-label is the fulfilment of the Basic Criteria RL 0000. The bearer boards must also fulfil the requirements of the Product Group-Award Guideline RL 0200 “Timber and Wood Materials” and the linoleum those of Award Guideline RL 1201 “Linoleum Floor Coverings”.

2.1 Suitability of Application

The product must fulfill the requirements relating to functional suitability as listed under section 2.1 of Award Guideline RL 1201 “Linoleum Floor Coverings”.

The product must fulfill the requirements of EN 14085 relating to functional suitability.

2.2 Composition, Forbidden Substances, Substance Restrictions

The product must fulfill the requirements relating to the composition of the bearer material specified in Award Guideline RL 0207 “MDF Boards - Dry Process Boards”.

The product must fulfill the requirements relating to the composition of the linoleum surface material specified in Award Guideline RL 1201 “Linoleum Floor Coverings”.

Only water-based adhesives may be used to bond the linoleum surfacing material to the bearer board.

The following additives are prohibited:

- Glycol ethers and -esters
- APEO's (Alkyl phenol ethoxylate)
- Formaldehyde separators/dispersers
- Halogenated Isothiazolinones



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The product must not contain any chemical-synthetic flame retardants, biocides or halogen-organic compounds.

The product will be subject to an analysis for heavy metals and metalloids and EOX (extractable organic halides) and must meet the threshold limits as laid down in section 3 (Laboratory Tests).

2.3 Raw Material Sourcing, Production of Preliminary Products, Production

A proof of origin must be supplied for all renewable primary materials employed.

The product undergoing certification will be subject to an analysis for pesticides and must meet the threshold limits as laid down in section 3 (Laboratory Tests).

2.4 Usage

The product must not exhibit any unpleasant or foreign smells or odours. Furthermore it must be a very low-emission product. The products will be subject to an odour/smell test and an emissions test for volatile organic compounds (VOC), formaldehyde and isocyanates according to section 3 and must fulfil the specified thresholds contained therein.

The manufacturer must inform the consumer/user through appropriate means (e.g. information in the laying instructions) that if a protective surface-coating material containing acrylates (as per section 2.2 of Award Guideline RL 1201 "Linoleum Floor Coverings") is employed, that it is – even partially – renewable, so that the useful life of the product may be extended. The protective surface-coating must not negatively affect the natural properties of the linoleum.

The manufacturer must provide information on at least one appropriate, renewable raw material based, routine-care product.

2.5 Recycling/Disposal

Indications for recycling or suitable disposal are to be attached to the product.

2.6 Ecological Parameters

The manufacturing of all products of this product group must be in compliance with the ecological parameters listed below.



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Ecological parameters per m ²	Guide values ¹
Primary energy input of non renewable total resources (PENRE ²) [MJ]	120
Primary energy input of non renewable and renewable total resources (PET ³) [MJ]	240
Photochemical ozone creation potential (POCP) [kg ethylen-equiv.]	0,003
Acidification potential (AP) [kg SO ₂ -equiv.]	0,03
Eutrophication potential (EP) [kg PO ₄ ³⁻ -equiv.]	0,015
Global-warming potential (GWP) [kg CO ₂ equiv.]	8
Abiotic depletion potential (ADP) [kg Sb equiv.]	0,000005

If a single guide value is exceeded, it will be decided on a case by case basis whether this is permissible for the purpose of optimising the complete product manufacturing process.

¹Testing method: Calculation of the ecological parameters according to natureplus® implementing provisions for life cycle assessments; inventory analysis analogous to ISO 14040ff; efficiency categories according to CML-IA version 4.1 from October 2012 and characterised as baseline; primary energy requirement according to Frischknecht 1996; global-warming potential 1994/100 years; system limits: raw material sourcing to products ready for shipment

² PENRE: **p**rimary **e**nergy input of **n**on renewable energy resources

³ PET: **p**rimary energy inputs of renewable and non renewable **t**otal resources

2.7 Declaration

The product packaging should display a full declaration of the input materials listed, analogue to the EU-Cosmetic Regulations, according to the declining mass percentage. If it is not possible to display this information directly on the product packing, it should be provided with the product in a technical datasheet or sales leaflet (in English or in the national language). If intermediate/preliminary products or formulations are used as input substances and the proportion present in the final product is >0.1 M-%, then all the substances used within these must also be taken into account for the declaration.

For naming the input materials as part of the declaration the following applies:

- More than 1 M-% - designation of the substance in question
- Less than 1 M-% - at least a functional designation (e.g. "moth proofing agent")



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Furthermore, it is obligatory to provide the following information in a suitable form to the consumer or user (eg. online):

- Instructions for use and safety precautions
- Indications for storage and disposal
- Batch numbers
- City/town and country of production
- Indication of geographical origin of the key input material

When employing components with a potential for environmental hazard, the manufacturer has to suitably indicate measures to be taken to ensure environmental protection during removal and demolition (i.e. controlled deconstruction).

Additionally, the following product-specific information must be made available to the consumer or user.

- Suitability for classes as per EN 685
- Specification of the flooring surface material as per the relevant standard (EN 548)
- Total thickness in mm
- The residual indentation characteristics after static loading (EN 433)
- Color-fastness and resistance to fading as per ISO 105-B02
- Thermal resistance as per DIN 52612
- Fire resistance as per DIN EN 13501-1
- The static electrical propensity as per EN 1815
- Resilience to casters grading as per EN 425
- Resistance to cigarette burns as per EN 1399 and to chemical action as per EN 423
- Slip resistance class as per DIN 51130
- Areas of application (dry-, wet/moist- and external areas) as per EN 685
- Cleaning advice and routine care instructions: recommendation of at least *one* product for each area, that complies with Sections 2.1 to 2.7 of the Basic Criteria (Award Guideline RL0000)

2.8 Packaging

The packaging used must be recyclable. The manufacturer must participate in a recycling system if there is one for the corresponding material.

Paper and cardboard packaging must be made from recycled paper. Alternatively, paper from sources as per GL-5002 is permitted.

Plastic packaging must be comprised from polyolefins. PET, polystyrene or polycarbonates are allowed exceptionally in reasonable cases. Packaging made from PVC is generally not permitted.



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Packaging must not contain biocides.

The natureplus certification mark has to be printed on the packaging after the awardance of the product.

3. Laboratory Tests

The products are subject to laboratory analyses to test for harmful substances and undesirable ancillary ingredients. A representative sample is collected during the site inspection. If the sample collection can not be conducted by a natureplus examiner, an independent person designated by natureplus can collect the sample. For products with different sizes but the same composition, a single sample is sufficient.

3.1 VOC - TVOC

The product is subject to a test-chamber examination to survey the emissions of VOC, SVOC and other volatile compounds and to check compliance with the limit values. Measurements usually occur after 3 and 28 days. When low VOC emissions are to be expected, the emissions test can be terminated early, if a measurement 7 days after loading of the test chamber does not object to this. The test-chamber examination is performed according to the current version of the test method TM-01 VOC.

Emission measurement after 3 days

Test parameters	Limits	Unit
VOC (VOC, VVOC, SVOC) classified in: Regulations (EC) No. 1272/2008: categories Carc. 1A und 1B, Muta 1A und 1B, Repr. 1A und 1B; TRGS 905: K1, K2, M1, M2, R1, R2; IARC groups 1 u. 2A; DFG MAK-list III1, III2	< 1	µg/m ³
Total volatile organic compounds (TVOC)	≤ 3000	µg/m ³

Emission measurement after 28 days

Test parameters	Limits	Unit
Total volatile organic compounds (TVOC)	≤ 300	µg/m ³
of which:		

Total bicyclic terpenes	≤ 200	µg/m ³
Total sensitising substances per MAK IV, BgVV-list cat. A, TRGS 907	≤ 100	µg/m ³
Total VOC (VOC, VVOC, SVOC) classified in:		
Regulation (EC) No. 1272/2008: Kategorie Carc. 2, Muta 2, Repr. 2; TRGS 905: K3, M3, R3; IARC: group 2B; DFG MAK-list: III3	≤ 50	µg/m ³
Total aldehyde, C4-C11, acyclic, aliphatic	≤ 100	µg/m ³
Styrene	≤ 10	µg/m ³
Methylisothiazolinone (MIT)	< 1	µg/m ³
Benzaldehyde	≤ 20	µg/m ³
Total (VOC) without non-identified compounds	≤ 100	µg/m ³

A calculation of the r-value is performed. The limit value is ≤ 1.

Other emission measurements

Test parameters	Limit values	Unit
after 24 hours		
Monomeric isocyanates TDI, HDI	≤ 1	µg/m ³
Monomeric isocyanates MDI ⁽²⁾	≤ 2	µg/m ³
after 28 days		
Total semi-volatile organic compounds (TSVOC)	≤ 100	µg/m ³
Formaldehyde	≤ 36 ⁽¹⁾	µg/m ³
Acetaldehyde	≤ 36 ⁽¹⁾	µg/m ³

⁽¹⁾ 36 µg/m³ ≈ 0,03 ppm ⁽²⁾ if binding agents based on polymeric MDI are used

Termination criteria: The emissions test can be terminated 7 days after loading the test chamber, if the values measured at this time are lower than 50% of the 28-day threshold limits.

3.2 Element Analyses

The product is subject to an element analysis to determine the content of harmful elements and to check for undesirable contaminations. The measurements have to be in compliance with the limit values. The analysis is performed according to the current version of the test method TM-02 metals.

Element	Limit value	Unit
Arsenic (As)	5	mg/kg
Cadmium (Cd)	0,5	mg/kg
Cobalt (Co)	10	mg/kg
Chromium (Cr)	5	mg/kg
Copper (Cu)	30	mg/kg
Mercury (Hg)	0,1	mg/kg
Nickel (Ni)	10	mg/kg
Lead (Pb)	10	mg/kg
Antimony (Sb)	1	mg/kg
Tin (Sn)	1	mg/kg

3.3 Other Analyses

Test parameters	Limit values	Unit	Method
Halogenic organic compounds: AOX/EOX	≤ 1	mg/kg	TM-03 Halo
Odour	≤ 3	Odour intensity	TM-04 Odour
Total pesticides	≤ 1	mg/kg	TM-05 Pesticides
Individual pesticides Organochlorine pesticides: Aldrin, Chlordane, DDD, DDE, DDT, Dichlofluanid, Dieldrin, Endrin, Heptachlor, Hexachlorobenzene, Lindane, Pentachlorophenol Organophosphate pesticides: Dimethoat, Fenthion, Parathion-methyl, Parathion-ethyl, Phosalon Pyrethroids: Cypermethrin, Lambda-Cyhalothrin, Permethrin Other: Benomyl, Carbendazim, Prochloraz	≤ 0,5	mg/kg	TM-05 Pesticides



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Test Methods

TM-01 VOC: Volatile Organic Compounds VOC/TVOC, formaldehyde, acetaldehyde and TSVOC: DIN EN ISO 16000 series expanded by the natureplus implementation rules.

TM-02 Metals: ICP-MS measurements according to DIN EN ISO 17294-2, supplemented with the natureplus implementation rules and a sample preparation adjusted to the issue analysed.

TM-03 Halo: Halogenic organic compounds after combustion, determined by microcoulometry according to the natureplus implementation rules "AOX/EOX".

TM-04 Odour: natureplus implementation rules "odour intensity", 6-degree grading scale 24h after loading the test chamber

TM-05 Pesticides: DFG S 19 supplemented with the natureplus implementation rules.