

natureplus e.V.

Guideline 1400

Textile Floor Coverings

Issue: April 2019

For the Awardance of the Eco-Label





Guideline 1400

GL Textile Floor Coverings

Issue: April 2019

Seite 2 von 11

1. Application Areas

The following award criteria contain the requirements for the awardance of the natureplus eco-label for insulation materials within the product group “Textile floor coverings made from renewable raw materials”. This includes textile floor coverings made from animal hair and/or vegetable fibres.

The award criteria is to be applied exclusively to the mentioned product group. Composite systems made from textile floor coverings mixed with other materials (e.g. flooring with impact sound insulation) are not considered here.

2. Award Criteria

The prerequisite for labelling a product with the natureplus® quality mark is compliance with the following award guidelines, where applicable:

- GL-5001 Chemicals Directive
- GL-5004 Transparency and Social Responsibility
- GL-5010 Low-emission building products

2.1 Functional Suitability

For textile floor coverings - with the exception of loose (clean running) mats, runners and carpets - a declaration of performance of the essential characteristics in accordance with 14041 shall be submitted. The applicable load classes and additional functional requirements must be classified in accordance with EN ISO 10874 and the respective flooring standard (EN 1307 or EN 14215).

2.2 Composition, Forbidden Substances, Substance Restrictions

The proportion of renewable or mineral raw materials in textile floor coverings must be at least 85 percent.

The following substance bans and restrictions apply in addition to those listed in the natureplus Chemicals Directive GL-5001.

- The addition of organohalogen compounds is prohibited.
- The addition of synthetic-organic flame retardants is prohibited. The addition of other flame retardants is only permitted for products that are intended for use in commercial buildings and which are subject to fire protection regulations. Subsequent spray-treatments with flame retardants are not permitted.



Guideline 1400

GL Textile Floor Coverings

Issue: April 2019

Seite 3 von 11

- No biocidal treatments may be used. The definition of "biocide" corresponds to the definition in Regulation (EU) No 528/2012 on the placing on the market and use of biocidal products.
- The use of azo dyes/colorants which are capable of decomposing carcinogenic amines and dispersion emulsion paints suspected of being carcinogenic or of causing allergic reactions is prohibited. The current status (January 2019) of prohibited dyes is listed in appendix A.

The product to be awarded is subject to laboratory analyses for foreign fibers (Pol), AOX, biocides, heavy metals including aluminum and zirconium (flame retardants), organotin compounds and organophosphates (flame retardants) and shall comply with the limits given in section 3 (Laboratory tests). If necessary, colored products are additionally tested for azo dyes and disperse dyes. When using natural latex, the product is subjected to an analysis for nitrosamines and carbon disulfide.

2.3 Raw Material Sourcing, Production of Preliminary Products, Production

The following main components are permitted:

- Vegetable fibres
- Animal hair and products

Proof of origin must be provided for the main raw materials and input components. The aim is to achieve complete transparency in the supply chain (Chain of Custody - CoC) from the extraction of the primary raw materials to the finished carpet. The Supplier information should include not only the technical characteristics, but also the description of the processing steps and the type and quantity of input materials. In the case of transparency gaps in the supply chain, more frequent test cycles for the relevant pollutants will be defined according to section 3. Laboratory tests, depending on their relevance.

Compliance with the criteria for "transparency and social sustainability" throughout the entire supply chain must be ensured in accordance with natureplus award guideline RL 5004. In addition to the proofs mentioned in the RL 5004, Rugmark or STEP certifications are also suitable.

The manufacturer undertakes to obtain declarations of conformity from his raw material suppliers that no synthetic pesticides are used in the cultivation of the vegetable fibres. If possible, internationally recognised labels should be used as evidence. Compliance with the criterion is also checked by laboratory tests (see pesticide screening below).

For cotton, an additional confirmation that no chemical defoliant has been used must be submitted. Any irrigation of the cotton fields must not impair the local ecosystem sustainably (example: Aral



Guideline 1400

GL Textile Floor Coverings

Issue: April 2019

Seite 4 von 11

Sea). At least 10% of the cotton used should come from controlled organic cultivation. A confirmation from the cotton suppliers must be submitted that in the spinning mills, e.g. through extraction systems, it is ensured that there is no risk of byssinosis for the processors.

Chemical chlorine bleaching of the textiles is not permitted.

The final energy requirement for spinning, weaving and textile finishing must be declared, with a detailed breakdown according to energy sources.

The pollutant load in the waste water from textile production and finishing must be kept as low as possible. Before being discharged into the environment, the waste water must be purified in a sewage treatment plant. In addition, compliance with the applicable legal requirements for wastewater treatment must be confirmed.

The product to be awarded is comprehensively screened for pesticide residues according to DFG S19. This method allows the detection of approx. 500 pesticides in biogenic products. If a pesticide is detected, it is assessed on a case-by-case basis whether the result can be tolerated or whether measures to avoid it are necessary. This assessment is based on the toxicological classification of the pesticide, analogies to the pesticides already evaluated and the suspected source of contamination. For products for which pesticide residues have been detected, more frequent control measurements may be established, even if the limit values in Section 3 have not been reached. The pH value must comply with the limit values given in Section 3 (Laboratory tests).

2.4 Processing, installation and use

For full-surface bonding, it must be possible to use a natureplus®-certified adhesive or a "very low-emission" adhesive in accordance with EMICODE EC1 plus, Blauer Engel DE-UZ 113, eco-Institut label or equivalent. The manufacturer must point out the use of at least one such adhesive.

The product must not exhibit any unpleasant or foreign smells or odours. Furthermore, the product must be low emitting and fulfil the specified emissions limits according to Section 3 (Laboratory tests).

2.5 Declaration

On the product packaging – or if this is not possible, as close as possible to the product, in the technical datasheet or in the sales prospect - a full declaration of the ingredients (in the national language or in English) analogue to the EU Cosmetics Regulation, must be stated in decreasing mass proportions. Precursors or preparations which remain in the end product with a mass content of >1% must also be taken into account in the full declaration.

The following applies to the naming of input materials in the context of the full declaration:



Guideline 1400

GL Textile Floor Coverings

Issue: April 2019

Seite 5 von 11

- above than 1 M-% - designation of the substance in question
- below than 1 M-% - at least the function designation (e.g. "moth proofing agent")

Textile floor coverings must be declared in accordance with ISO 10874.

Furthermore, there is an obligation to enclose the following information with the product or to make it available to consumers* or users* in a suitable manner (e.g. on the Internet):

- Processing instructions and safety instructions
- Storage and disposal instructions
- Batch numbers
- Indication of place and country of manufacture of the product
- Designation of origin of the main input materials

When using ingredients with an environmentally hazardous potential, the manufacturer must indicate at an appropriate place which measures are to be taken within the framework of dismantling and demolition work to protect the environment (e.g. controlled dismantling).

For full-surface bonding: recommendation of a natureplus®-certified adhesive or at least a "very low-emission" adhesive according to EMICODE EC1 plus or equivalent.

2.6 Packaging

The packaging used must be recyclable. The manufacturer must belong to a recycling system, if one exists for the corresponding material.

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

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

The natureplus certification mark has to be printed on the packaging after it has been awarded.

3. Laboratory Tests

The products are tested for harmful substances and unwanted secondary components by means of laboratory analysis. For the laboratory analyses a representative sample is taken during the inspection of the plant. If the sampling cannot be carried out by the natureplus inspector, another independent person can also take the sample on behalf of natureplus. In the case of products with different dimensions and the same composition, one test sample is sufficient.

3.1 VOC / TVOC

To check the emission of VOC and to determine the TVOC and TSVOC, an emission chamber test is carried out with the product. Measurements are usually performed after 3 and 28 days.

If a low VOC emission is to be expected, a termination measurement can also be carried out after 7 days. The test-chamber examination is performed according to the current version of natureplus guideline 5010. The product must comply with the limit values specified in guideline 5010.

Specific limit values for textile floor coverings are defined there for individual parameters. The natureplus limit values are generally oriented to hygienic residential requirements. If they are adhered to, it can be assumed that there will be no impairment to the health of building users. In contrast, some building certification programmes require very low TVOC and TSVOC values for textile floor coverings for their highest quality level, which are based on technical feasibility. For textile floor coverings, the following stricter requirements therefore apply to TVOC, TSVOC:

Test parameter	Unit	Natureplus - limit value	
		Standard ¹	Textile Floorings ²
3 days after loading the test chamber			
TVOC (Total volatile organic compounds)	µg/m ³	≤ 3000	≤ 250
28 days after loading the test chamber			
TVOC (Total volatile organic compounds)	µg/m ³	≤ 300	≤ 100
TSVOC (Total semi-volatile organic compounds)	µg/m ³	≤ 100	≤ 30
VOC (total) without NIK	µg/m ³	≤ 100	≤ 50
Aldehyde:			
Formaldehyde	µg/m ³	≤ 24/36	≤ 10
Acetaldehyde	µg/m ³	≤ 24/36	≤ 24

¹ Limit values for health precautionary reasons – standard natureplus limit values

² Limit values for meeting increased demands in building labels due to practical feasibility – natureplus limit value for textile

floorings

3.2 Element Analyses

The product is subjected to an element analysis by means of ICP-MS measurement according to DIN EN ISO 17294-2 in order to determine the content of harmful elements and to check for undesirable contaminations.

The measurements have to be in compliance with the following limit values.

Element	Einheit	Grenzwert
Aluminium (Al)	mg/kg	⁽¹⁾
Arsenic (As)	mg/kg	2
Cadmium (Cd)	mg/kg	0,5
Cobalt (Co)	mg/kg	10
Chromium (Cr)	mg/kg	10
Chromium (Cr VI)	mg/kg	10
Copper (Cu) ⁽²⁾	mg/kg	20
Mercury (Hg)	mg/kg	0,2
Nickel (Ni)	mg/kg	10
Lead (Pb)	mg/kg	5
Antimony (Sb)	mg/kg	5 ⁽³⁾
Tin (Sn)	mg/kg	10
Thallium (Tl)	mg/kg	1
Zinc (Zn)	mg/kg	⁽¹⁾
Zirconium (Zr)	mg/kg	⁽¹⁾

(1) No limit value, purity control: the substance will only be tested for possible additions of aluminium, zinc, and zirconium compounds (possibly as flame retardant and proofing agents).

(2) Guideline value. If copper fibres are used, these are not included in the analysis.

(3) When plastics such as polyester are used, the limit value for antimony is not applicable because antimony is used as a catalyst in polyester production.

3.3 Other Analyses

Test parameter	Limit value	Unit	Method
Halogenic organic compounds	≤ 1	mg/kg	AOX/EOX (1)
Carcinogenic amines from Azo-dyes (2)	≤ 10	mg/kg	nach LFGB
Dispersion dyes classified as cancerogenic or sensitizing (3)	≤ 30	mg/kg	
Foreign fibres (in pile only)	ohne Befund		REM
Intensity of odour	≤ 3	[-]	(4)
Flame retardants (Organic phosphates) - individual TMP, TEP, TPP, TiBP, TBP, TPhP, TKP, TEHP, TBEP, TCEP, TCPP, TDPP	≤ 1	mg/kg	
Biocides			
Total Pesticides	≤ 1	mg/kg	(5)
Permethrin	≤ 3	mg/kg	(5)
Total of all other Pyrethroides	≤ 1	mg/kg	

(1) Halogenic organic compounds: AOX/EOX after combustion, determined by microcoulometry

(2) Analysis is only considered necessary in the case of coloured and / or printed products.

(3) Analysis only when synthetic materials are used; see appendix for a list of dispersion dyes classified as carcinogenic.

(4) Odour: 6-stage scale 24h after test room loading

(5) Pesticides: Determination of pesticide residues according to DFG S19

4. References

- DIN EN ISO 10874 – Resilient, textile and laminate floor coverings - Classification (ISO 10874:2009); German version EN ISO 10874:2012
- DIN EN 1307:2018-05 Textile floor coverings - Classification; German version EN 1307:2014+A2:2018.
- DIN EN 14215:2018-12 Textile floor coverings - Classification of machine-made rugs and runners; German version EN 14215:2018
- DIN EN 14041:2018-05 Resilient, textile, laminate and modular multilayer floor coverings - Essential characteristics; German version EN 14041:2018

- DIN ISO 2424:1999-01 Textile floor coverings - Vocabulary (ISO 2424:1992)

5. Annex: Lists of harmful substances

5.1 Ad Azo dyes

List of aromatic amines according to Directive 2002/61/EC or REACH Annex XVII Appendix 8:

- 4-Aminobiphenyl (92-67-1),
- Benzidin (92-87-5),
- 4-Chloro-o-toluidin (95-69-2),
- 2-Naphthylamin (91-59-8),
- o-Aminoazotoluol (97-56-3),
- 2-Amino-4-nitrotoluol (99-55-8),
- p-Chloroanilin (106-47-8),
- 2,4-Diaminoanisol (615-05-4),
- 4,4'-Diaminodiphenylmethan (101-77-9),
- 3,3'-Dichlorobenzidin (91-94-1),
- 3,3'-Dimethoxybenzidin (119-90-4),
- 3,3'-Dimethylbenzidin (119-93-7),
- 3,3'-Dimethyl-4,4'-diaminodiphenylmethan (838-88-0),
- p-Kresidin (120-71-8),
- 4,4'-Methylen-bis-(2-chloranilin) (101-14-4),
- 4,4'-Oxydianilin (101-80-4),
- 4,4'-Thiodianilin (139-65-1),
- o-Toluidin (95-53-4),
- 2,4-Diaminotoluol (95-80-7),
- 2,4,5-Trimethylanilin (137-17-7),
- 4-Aminoazobenzol (60-09-3),
- o-Anisidin (90-04-0)

5.2 Ad carcinogenic dyes

Dye stuffs and pigments classified as carcinogenic (according to ÖKO-TEX Standard 100 100, 2019)

C.I. Acid Red 26

C.I. Acid Red 114



Guideline 1400

GL Textile Floor Coverings

Issue: April 2019

Seite 10 von 11

- C.I. Basic Blue 26 (with $\geq 0,1$ % Michler's ketone or base)
- C.I. Basic Red 9
- C.I. Basic Violet 3 (with $\geq 0,1$ % Michler's ketone or base)
- C.I. Basic Violet 14
- C.I. Direct Black 38
- C.I. Direct Blue 6
- C.I. Direct Blue 15
- C.I. Direct Red 28
- C.I. Disperse Blue 1
- C.I. Disperse Orange 11
- C.I. Disperse Yellow 3
- C.I. Pigment Red 104 (Lead Chromate molybdate sulphate red)
- C.I. Pigment Yellow 34 (Lead sulfochromate yellow)
- C.I. Solvent Yellow 1 (4-Aminoazobenzene, Aniline Yellow)
- C.I. Solvent Yellow 3 (o-Aminoazotoluol)

5.3 Ad Allergenic dispersion dyes

Dye stuffs and pigments classified as allergenic (according to ÖKO-TEX Standard 100 100, 2019)

- C.I. Disperse Blue 1
- C.I. Disperse Blue 3
- C.I. Disperse Blue 7
- C.I. Disperse Blue 26
- C.I. Disperse Blue 35,
- C.I. Disperse Blue 102,
- C.I. Disperse Blue 106,
- C.I. Disperse Blue 124,
- C.I. Disperse Brown 1,



Guideline 1400

GL Textile Floor Coverings

Issue: April 2019

Seite 11 von 11

- C.I. Disperse Orange 1
- C.I. Disperse Orange 3
- C.I. Disperse Orange 37 (= 59 / = 76)
- C.I. Disperse Orange 59 (frühere Bezeichnung Orange 37)
- C.I. Disperse Orange 76 (frühere Bezeichnung Orange 37)
- C.I. Disperse Red 1
- C.I. Disperse Red 11
- C.I. Disperse Red 17
- C.I. Disperse Yellow 1
- C.I. Disperse Yellow 3
- C.I. Disperse Yellow 9
- C.I. Disperse Yellow 39
- C.I. Disperse Yellow 49

5.4 Ad prohibited dyes

Prohibited dyes

- C.I. Acid Violet 49
- C.I. Basic Green 4 (chloride)
- C.I. Basic Green 4 (free)
- C.I. Basic Green 4 (oxalate)
- C.I. Basic Violet 1
- C.I. Direct Blue 2018
- C.I. Disperse Orange 149
- C.I. Disperse Yellow 23
- C.I. Solvent Yellow 2
- C.I. Solvent Yellow 14
- Navy Blue