natureplus e.V.

Award Guideline 1802

Textile Wall Coverings

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For the Awardance of the Eco-Label

1. Application Areas

The following criteria contain the requirements for the awardance of the natureplus eco-label for textile wall coverings. These include ready-to-use wall coverings in accordance with EN 235 with a bearer material (paper or fleece) upon which a textile top layer is laminated (textile wall papers).

The award guideline is to be applied exclusively to the named product group. Wall spans/linings are outside the scope of this guideline.

2. Award Criteria

The prerequisite for the awardance of the natureplus eco-label is the fulfilment of the basic criteria GL-0000, of the chemicals directive GL-5001 and of the guideline for facility inspections GL-5004.

2.1 Suitability of Application

The product must meet the requirements of EN 235 (“Wall coverings – Vocabulary and symbols“) and EN 266 (“Wall coverings in roll form - Specification for textile wall coverings”) or comparable standards and be labelled according to the applicable standard. The requirements of EN 234 (“Wall coverings in roll form - Specification for wall coverings for subsequent decoration“) or a comparable standard apply to wall coverings for subsequent treatment/coverage.

The product must meet the requirements of EN 235 or a comparable standard. The water vapour diffusion characteristics must meet the requirements of DIN 52615 or a comparable standard.

2.2 Composition, Forbidden Substances, Substance Restrictions

Wall coverings with a paper bearer layer must be made to at least 90% from mineral or renewable raw materials. At least 50% of the paper-based backing layer must be made from recycled/recovered paper or from wood certified by FSC (at least FSC mix).

The following product additives are forbidden:

- Halogen organic compounds
- Synthetic-organic fire retardants
- Moth-proofing agents and antimicrobial additives
- Azo dyes/colorants, which are capable of decomposing carcinogenic amines
- Dispersion colorants which are carcinogenic or cause allergic reactions

Furthermore, the addition of synthetic-organic flame retardant and proofing agents is not permitted. The addition of other flame retardant and proofing agents is only permitted for products that are intended for use in commercial buildings where they are subject to and fulfil the appropriate fire protection regulations. Subsequent spray-treatments with flame retardants are not permitted.

Air-impermeable laminations (e.g. Polyethylene laminates) are prohibited.

The product is subject to laboratory analyses as laid down in section 3 and has to comply with the limit values stated therein.

2.3 Raw Material Sourcing, Production of Preliminary Products, Production

The requirements of the guideline GL-5002 for the origins of wood and wood production must be met for wood as a raw material. The manufacturer must provide proof of compliance with the XXXVI. Recommendation of the BfR (German Institute for Risk Assessment) “Paper, Cartons und Cardboard for use in contact with foodstuffs” („Papiere, Kartons und Pappen für den Lebensmittelkontakt“). In the reprocessing and reconditioning of the recovered paper and/or the primary fibres, the use of bleaching agents containing halogen, optical brighteners, chlorine or ethylenediaminetetraacetic acid (EDTA) is forbidden.

Chemical aids containing glyoxal or formaldehyde or those which are capable of decomposing formaldehyde are not permitted for use in the manufacture of the wallpaper. Additionally the use of the following substances is prohibited: - Azo dyes/colorants which can decompose carcinogenic amines, biocides, optical brighteners and organo-phosphates.

Chemical aids containing glyoxal or formaldehyde or those which are capable of decomposing formaldehyde are not permitted for use in the manufacture of the wallpaper. Additionally the use of the following substances is prohibited: - Azo dyes/colorants which can decompose carcinogenic amines, biocides, optical brighteners and organo-phosphates.

The main constituents of the textile top layer may consist of vegetable-, animal- and mineral-based products. A certificate confirming the proof of origin for these main constituents must be provided.

The manufacturer has to state and to place his suppliers under the obligation that no synthetic plant protecting product with agents included on the list of banned pesticides of the chemicals directive GL-5001 are used during growing, harvest, storage or transport of the materials used to make the textile top layer. Compounds based on arsenic or mercury must not be employed. Implementing the obligation and the supplier's declarations are a part of the certification procedures.

Chemical chlorine bleaching of the textiles is not permitted.

2.4 Usage

The product must not exhibit any unpleasant or foreign smells or odours.

The emissions during use have to be in compliance with the limit values according to section 3.

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.

Ecological parameters per m²	Guide values[1]
Primary energy input of non renewable total resources (PENRE[2]) [MJ]	10
Primary energy input of non renewable and renewable total resources (PET[3]) [MJ]	12
Photochemical ozone creation potential (POCP) [kg ethylen-equiv.]	0,0002
Acidification potential (AP) [kg SO_2-equiv.]	0,005
Eutrophication potential (EP) [kg PO_4^{3-}-equiv.]	0,004
Global-warming potential (GWP) [kg CO_2 equiv.]	0,8
Abiotic depletion potential (ADP) [kg Sb equiv.]	0,0000002

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.

[1]Testing 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 **r**enewable **e**nergy resources

[3] PET: **p**rimary **e**nergy 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“)

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.

- General data (labelling/designation, type, name, etc.)
- Wall covering type
- Production number
- Measurements (surface area, edges)
- Water resistance
- Impact resistance
- Removal instructions
- Designation/labelling in accordance with EN 233
- Length, width and surface area of the roll
- Durability/storage lifespan
- Density
- Degree of colour fastness (bleaching resistance to light)

- Washable characteristics level (DIN EN 233) for washable wall coverings
- Dimensional stability under changing temperature conditions
- Colour fastness
- Sound absorption properties
- Ease of maintenance/ care instructions

Any wallpaper adhesive product recommendations must include least one product that complies with the substance restrictions and prohibitions as per GL-5001 and with the requirements for declarations according to the product guideline.

2.8 Processing and Installation

The wallpaper adhesive recommended by the manufacturer may not contain any references to specific dangers (so called R-Sätze – a German listing of the risk assessment of certain chemicals in connection with dangers to health).

The manufacturer must provide the user with information relating to the availability of wallpaper adhesive based on starch, cellulose or casein which may be used without the addition of artificial resins or fungicides.

The manufacturer must recommend surface treatment products which comply with the sections 2.1-2.7 of the basic criteria for subsequent treatments of the product.

2.9 Packaging

The packaging used must be recyclable. The manufacturer must be 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.

Packaging must not contain biocides.

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

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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/m³**
Total volatile organic compounds (TVOC)	≤ 3000	**µg/m³**

Emission measurement after 28 days

Test parameters	Limits	Unit
Total volatile organic compounds (TVOC)	≤ 300	**µg/m³**
of which:		
Total bicyclic terpenes	≤ 200	**µg/m³**
Total sensitising substances per MAK IV, BgVV-list cat. A, TRGS 907	≤ 100	**µg/m³**
Total VOC (VOC, VVOC, SVOC) classified in:	≤ 50	**µg/m³**

Regulation (EC) No. 1272/2008: Categorie Carc. 2, Muta 2, Repr. 2; TRGS 905: K3, M3, R3; IARC: group 2B; DFG MAK-list: III3		
Total aldehyde, C4-C11, acyclic, aliphatic	≤ 100	**µg/m³**
Styrene	≤ 10	**µg/m³**
Methylisothiazolinone (MIT)	< 1	**µg/m³**
Benzaldehyde	≤ 20	**µg/m³**
Total (VOC) without non-identified compounds	≤ 100	**µg/m³**

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

Other emission measurements after 28 days

Test parameters	Limit values	Unit
Total semi-volatile organic compounds (TSVOC)	≤ 100	**µg/m³**
Formaldehyde	≤ 24 (1)	**µg/m³**
Acetaldehyde	≤ 24 (1)	**µg/m³**

(1) 24 µg/m³ ≈ 0,02 ppm

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
Aluminium (Al)	(1)	mg/kg
Arsenic (As)	≤ 1	mg/kg
Boron (B)	≤ 50	mg/kg
Cadmium (Cd)	≤ 0,5	mg/kg
Cobalt (Co)	≤ 2	mg/kg

Chromium (Cr)	≤ 10	mg/kg
Copper (Cu)	≤ 20	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)	≤ 5	mg/kg

(1) purity control: product is tested for the addition of aluminium, zinc or zirconium compounds (flame retardancy)

3.3 Other Analyses

Test parameters	Limit values	Unit	Method
Halogenic organic compounds: AOX/EOX	≤ 1	**mg/kg**	TM-03 Halo
Glyoxal	≤ 10	**mg/kg**	
Carcinogenic amines from azo-dyes(1)	≤ 10	**mg/kg**	according to LFGB
Disperse dyes(2)	≤ 30	**mg/kg**	
Foreign fibres	nothing abnormal detected	SEM	
Asbestos fibres(3)	asbestos free per DAB(4)		SEM
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	≤ 0,5	**mg/kg**	TM-05 Pesticides

Organophosphate pesticides: Dimethoat, Fenthion, Parathion-methyl, Parathion-ethyl, Phosalon Pyrethroids: Cypermethrin, Lambda-Cyhalothrin, Permethrin Other: Benomyl, Carbendazim, Prochloraz			

(1) Analysis only for coloured or printed products

(2) Analysis only for coloured or printed products. Dispersion pigments/colorants classified as carcinogenic: Disperse Blue 1, Disperse Orange 11, Disperse Yellow 3. Dispersion pigments/dyes classified as causing allergies: Disperse Blue 1, 3, 7, 26, 35, 102,106,124; Disperse Orange 1, 3, 37, 76; Disperse Red 1, 11, 17; Disperse Yellow 1, 3, 9, 39, 49.

(3) if required analysis of the talcum for asbestors, if the manufacturer does not submit an analysis

(4) DAB: German register of medicines

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.