

natureplus e.V.

Guideline 0607 (draft)

Loam/Clay Paints and Thin-Layer Loam/Clay Plaster Coatings

Version: Oct. 5, 2026

for the awardance of the eco-label

draft

Introduction

The International Association for Sustainable Building and Living – natureplus association – pursues the goal of promoting sustainable building products and increasing their popularity and use. To this end, sustainability criteria for building products are defined and verified as part of regular conformity assessments at the applicant's premises.

Three comprehensive sustainability definitions are created to achieve a holistic understanding of quality.

CLIMATE PROTECTION

The climate crisis is worsening, and the consequences are becoming increasingly visible. The construction sector is one of the largest emitters, accounting for around 40% [1] of global greenhouse gas emissions. Energy-intensive manufacturing processes, long transport routes and short renovation cycles are often still characteristic of the status quo.

The natureplus certification requires manufacturers to meet strict limits on CO₂ emissions and primary energy consumption.

[1] UNEP, 2020, 2020 Global Status Report for Buildings and Construction, p. 4.

HEALTHY LIVING

In Western societies, we spend about 90% [2] of our lives in buildings. Pollutants emitted by building materials can accumulate in the indoor air we breathe daily, posing unnecessary health risks to occupants. The accumulation of chemical pollutants from building materials in household dust is also a cause for concern.

The natureplus certification ensures that hazardous input materials are avoided or used in quantities that are harmless to health. Emissions from building products are strictly regulated and regularly monitored.

[2] Umweltbundesamt, o.D., Ausschuss für Innenraumrichtwerte (AIR)

CONSERVATION OF RESOURCES

All construction activities have an impact on nature and the environment, with the consumption of finite resources remaining unacceptably high. The production of building materials in Germany consumes about 60% of our resources, and as much as 90% if only mineral raw materials are considered. At the same time, the construction sector is responsible for 50% of the waste generated. [3]

The natureplus certification sets out requirements for increased transparency in the supply chain, respect for human rights and the environment, and the responsible use of resources throughout the life cycle of a building product.

Sustainable materials should also be durable, reusable, or recyclable.

[3] VDI ZRE, 2019, Ressourceneffizienz im Bauwesen – Von der Planung bis zum Bauwerk, p. 5.

Notes on this product guideline:

The eco-label, the certification programme including all associated documents is the property of the non-profit natureplus® environmental organisation. The Association and its specially appointed Criteria Commission are therefore responsible for the further development of the requirements.

The label is awarded by the European cooperative natureplus Institute SCE mbH.

In the event of textual discrepancies between different language versions of a guideline, the Criteria Commission's Task Force will determine the valid wording. The affected language versions will be amended to reflect the valid wording.

In the event of conflict between the basic guidelines (50XX) and this product guideline, the product award guideline shall prevail.

For questions, criticism and suggestions, please contact:

International Association for Sustainable Building and Living – natureplus association
Hauptstr. 24, 69151 Neckargemünd, Germany
criteria@natureplus.org
+49 (0)6223 866 017 0

1 Application Areas

The following criteria contain the requirements for the awardance of the natureplus eco-label for loam/clay paint materials and thin-layer loam/clay plaster coatings for interior usage. Loam/clay paint materials and thin-layer loam/clay plaster coatings are products or systems in which loam/clay is used as the predominant binding agent; used for the colouring and decorating of interior surfaces and that are applied in a single coat with a maximum thickness of up to 5mm. Loam/clay renders and stabilised loam/clay mortars are outside the scope of this guideline.

2 Award Criteria

The prerequisite for a product to be awarded the natureplus® quality label in accordance with these guidelines is compliance with the following award guidelines:

- GL5001 Chemicals Directive
- GL-5003 Nature Conservation when Exploiting Mineral Resources
- GL5004 Transparency and Social Responsibility
- GL5010 Low-emission building products
- GL5020 Climate compatibility and energy efficiency

2.1 Functional Suitability

The product must fulfil the requirements for functional suitability by having a national or European technical approval or by following a harmonised standard.

The applicant shall meet this requirement by submitting one of the following documents:

- a valid European Technical Assessment (ETA)
- a declaration of performance and conformity according to a European harmonised technical specification (e.g. standard)

- a valid national technical approval (e.g. in Germany a general technical approval – abZ, in Austria a technical approval – BTZ)
- a national declaration of performance and conformity to a national technical specification (e.g. standard)

The yield (covering power), gloss, contrast ratio and the maximum grain size must be characterised according to DIN EN 13300. If the manufacturer declares that the product exceeds the standards of the lowest class, he must provide proof that the product complies with the aforementioned requirements through the submission of appropriate test results and expert assessments.⁽¹⁾

(1) If the testing regulations of DIN EN 13300 are not applicable to the product characteristics, it is possible to agree a modification of the testing method with natureplus.

The manufacturer must submit the results of the measurement of the products abrasion resistance when dry: The method to determine the abrasion resistance of the loam/clay surface has been developed by the University of Kassel's Research Laboratory for Experimental Construction (FEB). This employs a hard, rotating, plastic brush (manufacturer: Wolfcraft GmbH, 56746 Kempenich, Germany, Cup brush, Diameter 65 mm, Order-No. 1506000; The brush should be held flat against the surface!) with a diameter of 7 cm is pressed against the surface of the loam/clay at a pressure of 2 kg. After 20 revolutions the resulting abraded material is weighed. The final result is the mean value of three individual tests. Suitable test intervals must be specified.

2.2 Composition, Forbidden Substances, Substance Restrictions

The product must be made to 99 M-% from mineral and renewable raw materials and water.

Chemically modified natural substances and water are permitted.

The following substances must not be added to the product:

- softening agents (according to VdL-GL 01)
- glycol compounds
- APEOs (alkylphenol ethoxylates)
- halogenic organic compounds
- organic tin compounds
- azo dyes resulting in carcinogenic amines

- biocides not used for in-can conservation (film preservatives)
- halogenated isothiazolinones
- formaldehyde releasing substances

Biocides may not be used in products which, due to their properties (e.g. highly alkaline), do not require pot-preservation.

In particular, the following materials must not be used in loam/clay paint and coating systems:

- preservatives which have not been officially approved as food additives (in accordance with guideline 89/107/EEC or a comparable standard) or for cosmetics (in accordance with guideline 2003/15/EC or a comparable standard).

The product must not be prepared with pigments and siccatives based on lead, cadmium, chrome VI and their compounds.

Any primers which are used as part of a standard application of the product must fulfil the requirements of the natureplus basic criteria GL-0000. If the primer contains constituents which may be emitted (e.g. solvents, softening agents (phthalates), preservatives), then the primer must comply with the emission limits according to section 3.

Verification by laboratory analysis

Material-specific controls exclude product risks as defined below.

The limit values and methodology are contained in Section 3.2/3.3 of this guideline.

If products from forestry and agriculture are present in the end product, pesticide inputs must be excluded. The limit values must be complied with.

The content of harmful heavy metals in the product must be checked by means of elemental analysis.

This is done by means of a complete elemental analysis. Contamination or undesirable additives can also be detected in this way.

The solubility of metals and metalloids must be ruled out by means of an eluate analysis.

If cementitious ingredients are present in the end product, the limit values for sensitising chromium VI must be complied with.

If organic substances are present in the end product, the limit values for organohalogen compounds must be complied with.

End products containing post-consumer recycled material (PCR) must undergo a purity check for mineral respirable foreign fibres.

If calcareous input materials or talc are present as ingredients in the end product, geogenic asbestos must be excluded.

2.3 Raw Material Sourcing, Production of Preliminary Products, Production

A certificate of origin must be provided for all raw materials.

When using mineral raw materials, the requirements of [RL-5003 "Nature conservation in the mining of mineral raw materials"](#) must be complied with.

If renewable raw materials are employed, tests for pesticides according to section 3 must be performed.

In order to minimise the use of pot-preservatives in liquid (water-based) formulations, measures should be taken to avoid the incidence of bacterial growth. Evidence of these precautions must be provided.

If secondary raw materials are used, the product may if required, be tested for material specific parameters.

If methyl-cellulose is used as an additive, the following requirement must be complied with:

The production of the methyl-cellulose must not negatively impact upon the environment through waste water. Proof of compliance in accordance with the national implementation of the EU-guideline EU-GL 76/464/EWG and GL 9661/EG (IPPC) must be provided in the form of an independent expert assessment report.

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.

Emissions must not exceed the natureplus limits according to section 3 during the use phase. (see section 3 and RL5010)

2.5 Reuse, recycling and disposal

The products are to be labelled with indications for disposal of paint containers and paint residues, along with cleaning advice for all tools used.

2.6 Ecological Parameters

All products in this product group must be manufactured in such a way that the environmental parameters listed in [RL5020](#) are complied with.

2.7 Public Declaration

A public declaration of ingredients^[1] must be provided in the official language of the country in which the product is intended for sale. It must be freely accessible. Ingredients must be listed in descending order of weight. The following publicly accessible documentation paths are permitted:

- Product packaging
- Technical data sheet
- Sales brochures
- Website

Ingredients from preliminary products or preparations that remain in the final product with a content of >1 M% must also be included in the full declaration.

The following applies to the public declaration of ingredients:

- above 1 M% the name of the ingredient
- below 1 M% at least the functional name of the ingredient, the mass order is cancelled.

[1] Ingredients are substances and mixtures that remain in the final product. Reactants and ancillary input materials are included in the non-public full declaration submitted to the assessment body

Furthermore, there is an obligation to include the following information with the product or to make it available to the consumer or user in an appropriate manner (e.g. online):

- Instructions for use and safety instructions
- Storage and disposal instructions

- Batch numbers
- Country of production
- Country of origin of input materials > 20 M-% where there is a deviation from the country of production

When using ingredients with an environmentally hazardous potential, the applicant 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).

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

- Durability, storage properties, necessary storage conditions
- Spreading rate – efficiency in m² per product unit
- Yield (surface coverage power) gloss, contrast ratio and the maximum grain size according to DIN EN 13300
- Details of the wet abrasion resistance of the product
- Suitable substrates and the appropriate primer products
- Details of the water-sensitivity of the product

2.8 Processing and Installation

No further requirements in this section.

2.9 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 subject to laboratory analyses to test for harmful substances and undesirable ancillary ingredients. A representative sample is collected during the production audit. If the sample collection cannot 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 Volatile Organic Compounds 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. 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](#).

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-O2 metals.

An eluate analysis is mandatory if the required values of the content analysis are not met.

Element	Limit value [mg/kg]
Arsenic (As)	≤ 20
Cadmium (Cd)	≤ 1
Cobalt (Co)	≤ 20
Chromium (Cr)	≤ 200
Mercury (Hg)	$\leq 0,5$
Nickel (Ni)	≤ 100
Lead (Pb)	≤ 20

3.3 Other Analyses

Chromium VI

Test parameters	Limit values	Unit	Method
Chromium VI (Cr VI)	≤ 2	mg/kg	TRGS 613

Halogenic organic compounds

Test parameters	Limit values	Unit	Method
Halogenic organic compounds: AOX/EOX	≤ 1	mg/kg	TM-03 Halo

Asbestos fibres

If the product contains secondary materials:

Test parameters	Limit values	Unit	Method
Asbestos fibres	asbestos free per DAB ¹		SEM

1: DAB: German Register of Medicines

Odour

Test parameters	Limit values	Unit	Method
Odour	≤ 3	Odour intensity	TM-04 Odour

Pesticides

To be examined only if necessary:

Test parameters	Limit values	Unit	Method
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	$\leq 0,1$	mg/kg	TM-05 Pesticides

4 Appendix

Test methods

TM-01 VOC : Volatile Organic Compounds VOC/TVOC, formaldehyde, acetaldehyde and TSVO: DIN EN ISO 16000 series expanded by the natureplus implementation rules in [guideline 5010](#).

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 3 days after loading the test chamber following VDA 270:2018.

TM-05 Pesticides: DFG S 19 extended by natureplus implementing regulations

TM-08 Foreign fibres and foreign substances: scanning electron microscopy SEM

TM-09 Monomeric isocyanates: 24h after test chamber loading

TM-10 PAH: HPLC / GC-MS, sum according to EPA

Appendix Test parameters for paints containing coloured pigments and tinting paints

If the composition of the coloured paints or tinting paints (with the exception of the colorant components) is identical to the un-pigmented / white paints, then they will only be tested for the following parameters:

- Metals and Metalloids (according to each colour)
- Carcinogenic Amines from Azo dyes/colorants (if required/suspected)

Test parameter	Limit value	Unit	Method
Carcinogenic Amines from Azo dyes	≤ 10	mg/kg	according to LFGB

Simplified Procedure

The pigments are directly analysed for their metal content. The manufacturer must supply a list of all the pigments employed (brand name, chemical structure, CAS-number, safety data sheet). These pigments are chemically classified and combined into logical groups for mixed samples.

Content Analysis

The elements arsenic, lead, cadmium, mercury and thallium will be solubilised through complete dissolution and measured according to the natureplus implementation procedure. The decomposition of pigments based upon organic colorants is accomplished by means of a pressure digestion system using nitric acid. Pigments

based upon inorganic starting compounds will be solubilised by means of a pressure digestion system using a nitric acid/hydrofluoric acid mixture.

The applicable threshold values for this analysis are calculated based upon the threshold values of this guideline for the colourless product according to the following formula:

Threshold value of the element⁽³⁾ = (100 / divided by the number of pigments in the mixed sample) / average percental input of the colorant.

(3) Threshold value Thallium 2 mg/kg. For other element limits see the table under section 3.

If the threshold value is exceeded, an analysis of the individual pigments must be performed.

Eluate determination

For the metals antimony, barium, chrome, cobalt, copper, nickel and tin, which are classified as harmful, the analysis of the soluble proportion is to be preferred over the analysis of the total content. The eluate is produced as per DIN EN 71 Part 3 by means of the elution method using a gastric acid-substitute solution.