natureplus e.V.

Guideline 0213

Timber Façade Panelling and Cladding

Version: Oct. 23, 2026
for the awardance of the eco-label

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 limit values 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:

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1 Application Areas

The following criteria contain the requirements for the awardance of the natureplus eco-label for timber façade panelling and cladding. These include all building façade systems which are comprised of solid timber profiles and/or solid timber panels/ boards or materials with a timber raw material proportion and that can be classified in one of the following four categories depending upon the manufacturing process:

- Horizontal Profiles (weatherboarding)
- Vertical Profiles (Floors/decking and roof coverings)
- Shingles
- Facade panelling/cladding for the complete surface (Boards/Panels):
  - Solid timber boards/panels of type SWP/3 according to EN 12775 and EN 13353
  - Plywood boards/panels (construction and veneered plywoods) according to EN 636-3 S and G aswell as EN 314-2

The award guideline is to be applied exclusively to the named products. GL-0503 deals exclusively with roof panels and roof cladding.

“Woodchip jacket blocks and boards“ are regulated in Award Guideline GL-0107 and “Wood-fibre insulation boards“ in Award Guideline GL0104.

Composite systems are outside the scope of this guideline.

The following award criteria contain requirements for the natureplus®-ecolabel.

The guideline is designed for timber façade panelling and cladding. These include all building façade systems which are comprised of solid timber profiles and/or solid timber panels/boards or materials with a timber raw material proportion and that can be classified in one of the following four categories depending upon the manufacturing process:

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Composite systems are outside the scope of this guideline.

The guidelines apply exclusively to the products mentioned.

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
- GL5002 Origin of Wood and Wood Production
- 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)

Untreated timber must be of at least durability class 3-4 (“moderately durable/slightly durable“) according to EN 350-2.(1)

Timber construction components without protective chemical wood preservatives which are subject to precipitation, water-spray /splashes or similar according to EN 335-1 (from EN460) and classified in usage class 3 and/or 4 (Hazard class 3 and/or 4 according to DIN 68800-3) are to be protected through preventive structural measures according to DIN 68800-2 and DIN 1052 or an appropriate comparable standard.

Adhesive-free timber, sawn wood and glued laminated timber (Glulam) must satisfy the quality requirements according to DIN 68365 (“Structural Timber for Carpentry“) “) and according to DIN 4074 (Building Timber for Wood Building Components – Grades 1 and 2) or an appropriate comparable standard.

External panelling and cladding from solid hardwood machined profiles must fulfil the minimum requirements of EN 14951 (“Solid hardwood panelling and cladding - Machined profiles elements”).

Panelling and cladding from solid softwood machined profiles must fulfil the minimum requirements of EN 14519 (“Solid softwood panelling and cladding - Machined profiles with tongue and groove”).

Timber shingles must fulfil the requirements of DIN 68119 (“Timber Shingles”) or a comparable standard.

Wood-based panels/boards must fulfil the minimum requirements of EN 13986 (“Wood-based panels- Characteristics, evaluation of conformity and marking”) for the individual board types.

The mechanical properties of solid timber boards must satisfy the requirements of EN 12775 and EN 13353.

The mechanical properties of plywood boards (such as the expansion, shrinkage, flexural strength, bending elasticity, compressive strength) must satisfy the requirements of EN 636-3 S and/or EN 636-3 G and in respect of their adhesive strength those of EN 1995-1-1.

The quality of the plywood bonding is determined according to EN 314-1 and to be declared according to EN314-2.

If the product is to be used for load bearing or reinforcement applications, it must also comply with the additional requirements of EN 13986 (“Wood-based panels- Characteristics, evaluation of conformity and marking”) and if required by the relevant building and construction regulations, those of EN12369-1 (“Wood-based panels - Characteristic values for structural design”) and DINV20000-1 ("Anwendung von Bauprodukten im Bauwesen Holzwerkstoffe"– “The application of building products in construction. Part 1-Timber materials”).

All structural specifications for constructions as well as timber construction components for load bearing or reinforcement applications must fulfil the usage classes in the structural calculations standard DIN 1052.

The use of thermally modified timber (TMT) for load bearing or reinforcement elements is not permitted without the presentation of a suitable certificate of usage.

(1) In the building sector, both the classification of the natural durability according to EN350-2 and, in connection with DIN 68800-3, the classification of the resistance classes according to DIN 68364 (1979) or a comparable standard must be fulfilled. For the hazard class 3, only heartwood containing polyphenols (tanning agents) which is free from sapwood and classified within the resistance classes 1 or 2 may be used. For the hazard class 4, only heartwood containing polyphenols (tanning agents) which is free from sapwood and classified within the resistance class 1 may be used.

The resistance of the timber types is no longer covered in the new issue of DIN 68364 (05-2003). DIN 68800 however refers to DIN 68364 in connection to the resistance classes. Therefore the older version (11-1979) is still valid for the building sector in Germany. Once the newest version of DIN 68800 is issued (expected in 2009) the resistance and durability of timber types contained within EN 350-2 will be the definitive classification.

2.2 Composition, Forbidden Substances, Substance Restrictions

Timber profiles and shingles must be made to at least 97% from renewable raw materials (including the moisture content proportion) based upon the apparent density of the product.

The product must not be impregnated with chemical wood preservatives. A thermal treatment of the wood is permitted.

The proportion of hydrophobic (water resistant/repellent) substances including synthetic binding agents in panel/board products is restricted to a maximum of 13% based upon the timber (including the moisture content proportion).

Polyurethane/Polyurea binding agents based upon isocyanates are restricted to a maximum of 5% based upon the timber (including the moisture content proportion).

Mixed resins based upon aminoplasts and phenols are permitted. UF-compounds (urea-formaldehyde) are not permitted.

Only long-lasting, low-maintenance and repairable surface coatings may be used as surfacing layers.

Varnishes derived from renewable raw materials, waxes, oils and modified oils are permitted as surface coating agents. Coating agents based upon acrylate and alkyl resin are also permissible. The use of UV-curing systems is permitted.

Factory-applied surface sealing/coating materials must not contain a solvent proportion of more than 10%. Sealants which contain more than 10% solvents in total may only be used under the following conditions:

1. The production facility must employ protective measures (waste air purification) which ensure that the proportion of solvents emitted is no higher than those preparation processes with a 10% solvent content.
2. The total C-content of volatile organic compounds (VOC) in the waste air must not exceed 10mg/m3 (as a half-hourly mean value in relation to the correspondingly measured O2-content).
3. The mass flow rate of volatile organic compounds (VOC) emitted must not exceed a maximum of 0.5kg/h.
4. Proof of compliance with the statutory employee protection (Health and Safety) regulations.

The product is subject to assessments as detailed in section 3 and must comply with the limits specified 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. A certificate of origin must be provided for all renewable raw materials. 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. 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. The manufacturer must demonstrate that a hazardous substance management according to national standards and regulations is available at the production facility for employee protection. Information on dust release and compliance with general dust limit values must be included therein. Where compliance with the general dust limit values or other occupational limit values cannot be guaranteed despite technical and organisational measures, personal protection equipment must be available. It must be aimed for a minimisation of avoidable burdens of the employees.

2.4 Usage

If the product is exclusively and expressly for use in external areas only, the emissions tests may be omitted.

2.5 Reuse, recycling and disposal

The product must be suitable for safe disposal in a waste incineration facility.

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

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.

- Labelling according to the guidelines of the European Community (Communauté Européenne, CE marking) or the respective general technical approval, including a scope specification
- General data (designation, type, name, etc.)
- Surface weight [kg/m²] or density [kg/m³]
- Thickness, length and width in mm
- Wood type and origin
- Areas of application (for wood-based boards in accordance with EN 13986)
- Usage class according to EN 335-1 (from EN460)
- Service/Usage class in accordance with EN 1995-1.1 (Wood moisture)
- Durability class according to EN 350-2
- The water content of the wood in%
- The suitability for the usage class according to DIN 1052:2004-08
- The grade indication according to DIN 4074-1:2003-06 or
- Strength class according to DIN 1052:2004-8
- Euro class according to EN 13501-1

For products containing adhesives, the following additional information is required:

- Type of adhesive(s)
- Bonding class (according to EN 314)

If the manufacturer makes a product recommendation for a finishing treatment, then at least oneproduct must be recommended that complies with the substance restrictions and prohibitions as per GL-5001 and with the requirements for declarations according to the product guideline.

Information about the avoidance of chemical wood preservation and special construction measures being a requirement for classifying wood materials as hazard class 0 (according to DIN 68800-2 or an equivalent standard) is to be provided in the form of a leaflet.

The manufacturer has to give indications regarding sufficient wood conditioning before installation.

2.8 Processing and Installation

The applicant must demonstrate whether low-dust working methods are available for processing the product. If this is the case, these procedures are to be recommended and suitably presented within the processing guidelines. Compliance with the general dust limit value must be ensured by low-dust working methods. If this is not possible, the wearing of personal protective equipment must be prescribed.

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 reasonablecases.

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 LaboratoryTests

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-02 metals.

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

Element	Limit value [mg/kg]
Arsenic (As)	≤ 5
Boron (B)	≤ 50
Cadmium (Cd)	≤ 0,5
Cobalt (Co)	≤ 10
Chromium (Cr)	≤ 10
Copper (Cu)	≤ 20
Mercury (Hg)	≤ 0,1
Nickel (Ni)	≤ 10
Lead (Pb)	≤ 5
Antimon (Sb)	≤ 1
Tin (Sn)	≤ 5

3.3 Other Analyses

Halogenic organic compounds

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

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	≤ 0,1	mg/kg	TM-05 Pesticides

4 Appendix

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 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