natureplus e.V.

Guideline 0208

Hard and Medium Wood-Fibre Boards

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 non-surfaced, medium-hardness, wood fibre boards as per EN 316 ("Wood fibreboards- Definition, classification and symbols") and EN 622-3 with a density of 400 kg/m³ to 900 kg/m³ as well as for non-surfaced, hard, wood-fibre boards (hardboard) as per EN 316 and EN 622-2 with a density of more than 900 kg/m³ and in which both types of boards are manufactured from ligno-cellulose fibres using the wet-process production method. The following guideline applies to woodfibre boards which are not treated with chemical preservatives and which are used for general, load-bearing and reinforcement purposes in dry or damp environments (service classes SC1 and SC2 as per EN 1995-1). This award guideline is to be applied exclusively to the named products. Bonded systems which incorporate hardboard or medium-hardness wood fibre boards are outsidethe scope of this guideline. Surfaced hard fibre boards for use in interior construction or furniture are regulated in Award Guideline RL0206.

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)

If none of the approvals apply, the manufacturer has to provide evidence that all standards relevant for the product are met:

The product shall comply with EN 13986 Wood-based panels for use in construction - Characteristics, evaluation of conformity and marking and EN 622-1 Fibreboard requirements - General requirements.

For hardboards with a density greater than 900kg/m³, compliance with EN 622-2 'Fibreboard requirements - Requirements for hardboards' shall be fulfilled.

Medium-hard boards with a density of 400 to 900 kg/m³ shall comply with EN 622-3 "Fibreboard requirements - Requirements for medium-hard boards".

2.2 Composition, Forbidden Substances, Substance Restrictions

At least 85% of the product based upon its dry weight must be made from renewable raw materials.

The proportion of hydrophobic (water resistant/repellent) substances including synthetic binding agents is restricted to a maximum of 5 M-% of the dry weight of the ligno-cellulose based fibres, shavings and chippings contained in the product.

The use and addition of biozides is not permitted.

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

Where wood is used as an ingredient, compliance with GL-5002 "Wood extraction and origin" must be ensured.

A certificate of origin must be provided for lignocellulose based raw materials. At least 80 % of the lignocellulose shavings, chippings and fibres contained within the product must originate from a source within a radius of no further than a 300 road-kilometre-equivalent(1) from the production plant.

(1) 1 km Road ≈ 2.5 km Train ≈ 27 km Ship-Overseas ≈ 4 km Ship-Inland waterways.

The applicant must declare and require its suppliers to ensure that no synthetic pesticides containing active ingredients that are excluded under the natureplus Chemicals Guideline RL-5001 are used during the growth phase or during harvesting, storage and transport of the raw materials used for chip and fibre production.

Compounds based on arsenic or mercury must not be employed.

The applicant fulfils this requirement by submitting the relevant delivery specifications or supplier agreements.

In production facilities outside the European Union, the applicant must demonstrate that the production facility has a hazardous substance management system for the protection of employees that meets the relevant European standards and legal regulations. This must also include information on the release of dust and compliance with the general dust limit values. Where technical or organizational measures cannot ensure compliance with general dust limit values or other workplace limit values, suitable personal protective equipment must be provided. Efforts must be made to minimize avoidable exposure of workers.

The manufacturer should aim to keep the water used in the production process in a closed circulation system.

If an open circulation system is employed the following points apply: The specific amount of wastewater should not exceed 2m3 per ton of wood fibre board.

If the waste water is discharged into flowing water systems (i.e. rivers, canals) or into the public sewerage/drainage system, the following emission limits should be observed:

	Discharge into a flowing water system	**Discharge into a public sewer**
General parameters		
Temperature	30°C	35°C
Bacterial toxicity G_L	4	a)
Fish toxicity G_F	2	a)
Settleable matter	0,3 ml/l	10ml/l
pH value	6,5-8,5	6,0-9,5
Anorganic parameters		
Ammonium as nitrogen (N)	5,0 mg/l	-
Sulfate as SO_4	-	200 mg/l
Organic parameters		
COD (chemical oxygen demand) as O_2	1 kg/t	-
BOD5 (5 day biochemical oxygen demand) as O_2	25 mg/l	-
AOX as chlorine (Cl)	0,2 g/t	0,2 g/t
Total Hydrocarbons	10 mg/l	20 mg/l
Phenol	0,3 g/t	60 g/t

a) A discharge must not detrimentally affect the biological decomposition processes within a public water treatmentfacility.

If the waste water is discharged into a flowing water system, the level of aluminium contained in the waste water must be below 2 mg/l.

If the waste water is discharged directly into a water treatment facility, special rules may be agreed with the water treatment authorities on a case by case basis. The guideline values may be exceeded under special conditions if circumstances permit or if it is necessary and authorised/prescribed by the responsible authorities.

The production equipment air emissions must comply with the emission levels in accordance with the air cleanliness regulations for boiler plant equipment Austria (BGBl. 1989/19 and/or 1997/324) or a comparable regulatory standard.

If necessary, the product to be labelled shall be subjected to a pesticide test in accordance with Section 3 and must comply with the limit values specified therein.

2.4 Usage

The product emissions must not exceed the natureplus requirement values for the use phase (see section 3.1 Volatile organic compounds and GL5010 Low-emission building products).

During use, the product must not have any odor or no odor foreign to the product (see 3.3 Other analysis: Odor).

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

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.

- 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 [mm]
- Areas of application in accordance with EN 13986 (Dry-, moist/wet-, Exterior areas)
- Type of adhesive
- Service/Usage class in accordance with EN pr1995-1 (Wood moisture)
- Wood origin
- Euro class according to EN 13501-1

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 GL5002 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.

Once awarded, the natureplus label together with the license number must be printed on the packaging or made visible to the consumer in another suitable place.

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
Cadmium (Cd)	≤ 0,5
Cobalt (Co)	≤ 10
Chromium (Cr)	≤ 2
Copper (Cu)	≤ 20
Mercury (Hg)	≤ 0,1
Nickel (Ni)	≤ 10
Lead (Pb)	≤ 5
Antimon (Sb)	≤ 1
Tin (Sn)	≤ 1

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