ENVIRONMENTAL PRODUCT DECLARATION

as per *ISO 14025* and *EN 15804+A2*

Owner of the Declaration	Fritz EGGER GmbH & Co. OG
Publisher	Institut Bauen und Umwelt e.V. (IBU)
Programme holder	Institut Bauen und Umwelt e.V. (IBU)
Declaration number	EPD-EGG-20250047-IBA1-EN
Issue date	03.06.2025
Valid to	02.06.2030

EGGER Laminate Flooring

EGGER Holzwerkstoffe Wismar GmbH & Co. KG

Institut Bauen und Umwelt e.V.

ECO PLATFORM EPD VERIFIED

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1. General Information

EGGER Holzwerkstoffe Wismar GmbH & Co. KG

Programme holder

IBU – Institut Bauen und Umwelt e.V.
Hegelplatz 1
10117 Berlin
Germany

Declaration number

EPD-EGG-20250047-IBA1-EN

This declaration is based on the product category rules:

Floor coverings, 01.08.2021
(PCR checked and approved by the SVR)

Issue date

03.06.2025

Valid to

02.06.2030



Dipl.-Ing. Hans Peters
(Chairman of Institut Bauen und Umwelt e.V.)



Florian Pronold
(Managing Director Institut Bauen und Umwelt e.V.)

EGGER Laminate Flooring

Owner of the declaration

Fritz EGGER GmbH & Co. OG
Weiberndorf 20
6380 St. Johann in Tirol
Austria

Declared product / declared unit

1 m² laminate flooring with an average weight per unit area of 7.16 kg/m² and an average product thickness of 7.8 mm

Scope:

This document applies to the average Laminate Flooring manufactured by Egger Holzwerkstoffe Wismar GmbH & Co. KG at the plant in Wismar (Germany).

The owner of the declaration shall be liable for the underlying information and evidence; the IBU shall not be liable with respect to manufacturer information, life cycle assessment data and evidences.

The EPD was created according to the specifications of EN 15804+A2. In the following, the standard will be simplified as *EN 15804*.

Verification

The standard EN 15804 serves as the core PCR
Independent verification of the declaration and data according to ISO 14025:2011
☐ internally ☒ externally



Florian Gehring,
(Independent verifier)

2. Product

2.1 Product description/Product definition

Egger laminate flooring from the NatureSense, NatureSense aqua, NatureSense aqua+ and EGGER dealer's brand laminate flooring are hard flooring elements based on wood-based materials that are laid without glue using a click connection.

They consist largely of waste wood from the sawing industry, which forms the HDF (high-density fibreboard) core board, impregnated balancer paper on the underside and a decorative surface layer of impregnated paper on the top. The decor coating is sealed with a highly abrasion-resistant and transparent surface layer. EGGER laminate flooring is available in various sizes, decors and texture combinations.

Regulation (EU) No. 305/2011 *(CPR)* applies to the placing on the market of the product in the EU/EFTA (with the exception of Switzerland). The product requires a declaration of performance in accordance with *EN 13329*, laminate flooring and CE labelling. Relevant national determinations apply to use. A declaration of performance is available under *DOP FL001* or *DOP FL004* and can be downloaded at www.egger.com.

2.2 Application

Laminate flooring is used for interior applications in new construction or renovations, with floating installation on screed or other sub floors such as wood, tiles or PVC. Installation must be performed according to the installation instructions and state-of-the-art technology.

Download installation instructions, eLearning modules and installation videos at www.egger.com

2.3 Technical Data

Bautechnische Daten

Name	Value	Unit
Product thickness	6 - 12	mm
Grammage	6400 - 10800	g/m^2
Abrasion Class	31 - 33	-
Length of the surface layer	1292 - 2050	mm
Width of the surface layer	135 - 327	mm
Density	875 - 930	kg/m^3

- The performance values of the product according to the declaration of performance in relation to its essential characteristics according to *EN 13329*, laminate flooring. Download see "Declaration of performance DPL AS flooring DoP FL001" or "Declaration of performance DPL flooring DoP FL004" at www.egger.com
- Voluntary information for the product: See "Technical data sheets" at www.egger.com (not part of the CE labelling).

2.4 Delivery status

The smallest possible delivery unit consists of a flooring board package with five to eight flooring boards, depending on the product thickness and the flooring board format. The following packaging units are available:

Format, L x B [mm]	tickness [mm]	pcs / box	m^2/ box	kg/ box (+/- 5%)	box L x B x H [mm]
Herringbone, 840 x 168	8	14	1.88	14.5	864 x 182 x 106
Medium, 1,292 x 135	8	8	1.4	10.59	1,305 x 145 x63
Classic, 1,292 x 193	7	10	2.49	15.54	1,305 x 205 x 69
Classic, 1,292 x 193	8	8	1.99	14.54	1,305 x 205 x 63
Classic, 1,292 x 193	10	7	1.75	15.99	1,305 x 205 x 70
Classic, 1,292 x 193	12	6	1.5	16.41	1,305 x 205 x 72
Large, 1,292 x 246	8	8	2.54	19.04	1,305 x 265 x 63
Kingsize, 1,292 x 327	8	6	2.53	18.31	1,305 x 336 x 48
Long, 1,292 x 248	10	5	2.52	23.2	2,070 x 265 x 50

2.5 Base materials/Ancillary materials

Main components as supplied

Name	Value	Unit
Dry wood fibres	78	%
UMF/ MUF Binding Agent	9	%
UF/ MF impregnating resins	3	%
Paper	2	%
Additives (paraffin, hardener, corundum)	1,5	%
ABS piping and water-based bevelled lacquer	<0,1	%
Water	6	%

Chemicals legal information

The product contains substances on the *ECHA* list of Substances of Very High Concern (SVHC) (as of 27/06/2024) above 0.1% weight by weight: **No**.

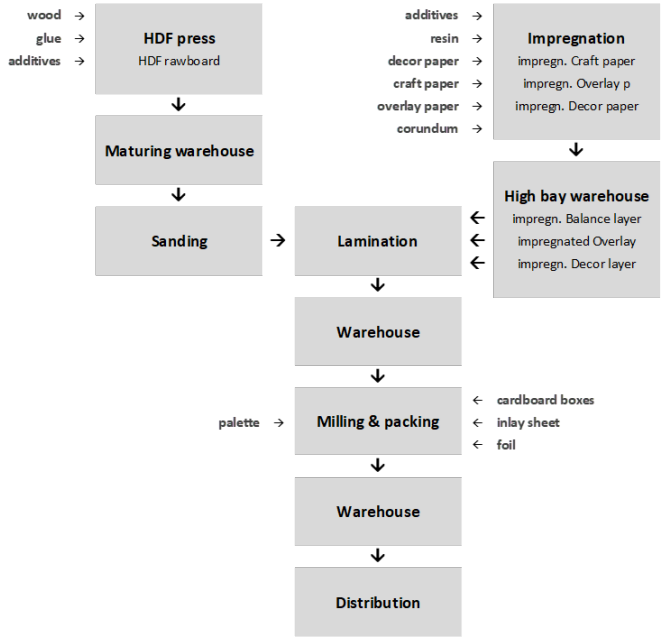
The product contains other CMR substances of category 1A or 1B, which are not on the candidate list, above 0.1 mass% in at least one sub-product: **No**.

Biocidal products have been added to this building product or it has been treated with biocidal products (it is therefore a treated product within the meaning of the Biocidal Products Regulation (EU) No. 528/2012): **No**.

2.6 Manufacture

Residual products from the sawing process, such as wood chips and sawdust, form 90% of the basis for the high-density fibreboard (HDF). Industrial roundwood is also used in small quantities at around 10 %. The wood fibres are bonded using additives and urea melamine formaldehyde binders. After production, the HDF raw boards are stored in the conditioning hall and then sanded. This is followed by coating with melamine

resin-impregnated papers on the top and underside (impregnates). The laminated HDF board is then stored again. In the final step, the flooring boards are produced on a profiling line into planks with a circumferential tongue and groove profile, packaged and delivered to the customer.



2.7 Environment and health during manufacturing

Waste resulting from the production process is recycled or used for heat generation in neighbouring production lines so that there is no waste resulting from the core process. The production facility has a biomass power plant.
Waste water from production is treated internally and returned to the production cycle.
Noise-intensive plant components such as the chip removal are encapsulated through structural measures. The quality management system is certified in accordance with *ISO 9001*.
The environmental and energy management system is certified in accordance with *ISO 14001* and *ISO 50001*.
Current measures can be found in the EGGER sustainability report at www.egger.com.

2.8 Product processing/Installation

The individual panels can be cut, fitted and adjusted using standard tools such as a jigsaw or circular saw. The finest possible toothing should be selected and suitability for wood processing is required. Alternatively, using so-called 'laminate punches or shears' is also a possibility. The latter are recommended, as the dust and noise emissions are kept very low.
Dust masks and goggles must be worn when using manual machining equipment. Appropriate occupational safety must be ensured. The sawdust should be extracted. The determinations of the trade associations apply to commercial processing.

Residual material arising on the construction site (cutting residues, cardboard packaging, foil if applicable) must be collected separately according to waste fractions and fed into the recycling stream.

2.9 Packaging

The packaging of the laminate flooring planks consists of cardboard and PE film, which can be recycled if collected separately.
Packages made of several cardboards are stacked on wooden pallets and secured with PET packaging strips. The pallets can be re-used. The packaging strip can be included in differentiated recycling.

2.10 Condition of use

During pressing as part of the manufacturing process, the bonding agent and the saturating resin are cross-linked in three dimensions by an irreversible polycondensation reaction with the addition of heat. The bonding agents and resins are chemically stable and mechanically bonded to the wood under normal conditions.

2.11 Environment and health during use

Environmental protection:
There is no risk of water, air or ground contamination given currently available knowledge assuming intended use is observed.

Health aspects:
There are no known health hazards or effects to be expected from normal use, i.e. in accordance with the intended uses, of EGGER Laminate Flooring. The harmlessness of EGGER laminate flooring is regularly verified by external emission tests. The products have been awarded the Blue Angel and the EU Ecolabel and bear the TÜV Profizert Interior "Premium".

2.12 Reference service life

The reference use duration of the declared product is of 5 years.
The period of use for private residential applications, depending on the product group and according to our guarantee terms, is between 10 and 25 years. In commercial applications, the period of use is generally 5 years. To increase the service life of the floor covering, follow the manufacturer's instructions in accordance with the guarantee and care instructions, download at www.egger.com

2.13 Extraordinary effects

Fire

EGGER laminate flooring is classed as low flammability and is classified as building material class Cfl according to *EN 13501-1*. There is no burning dripping and the smoke gas development is classified as low.

Brandschutz

Name	Value
Building material class	Cfl
Burning droplets	D0
Smoke gas development	S1

Water

Laminate flooring is intended for indoor use. They are not permanently resistant to permanent exposure to water. The floor must be replaced after unforeseen water exposure such as burst pipes, flooding or similar.

Mechanical destruction

The fracture pattern of laminate flooring exhibits a relatively brittle behaviour, whereby the fracture edges of the plates can lead to sharp edges (risk of injury).
The mechanical characteristics under load are described and specified in the product-specific standard *EN 13329*.

2.14 Re-use phase

With careful and cautious dismantling, laminate flooring may be reused for the same application at the end of the usage phase. The requirement is for the flooring to have been installed floating and that the profiles have not been damaged during dismantling and transport.

2.15 Disposal

Waste code: 170201/030105 according to *AVV*

Material recycling:
According to current knowledge, material recycling is not yet practicable. Solutions are being worked on industrially.

Energy recovery:
Given the high calorific value of approx. 17 MJ/kg, energy recovery is recommended. They may only be burned in suitable and legally compliant facilities in accordance with local regulations. Regulations are available from the relevant authorities. The combustion of the natural fibre-based product reduces the use of fossil fuels such as crude oil and natural gas.

Packaging:
The transport packaging paper/cardboard and film can be collected separately and recycled appropriately. Retrieval of the packaging material can be arranged with the manufacturer in individual cases.

2.16 Further information

Further information on the product can be found in the technical data sheets, the environmental and health data sheet and other documents at www.egger.com.

3. LCA: Calculation rules

3.1 Declared Unit

This Environmental Product Declaration refers to a declared entity of 1 m² EGGER laminate flooring with an average weight per unit area of 7.16 kg/m².

Deklarierte Einheit und Massebezug

Name	Value	Unit
Declared unit	1	m^2
Layer thickness	0.0078	m
Grammage	7.16	kg/m^2

EGGER laminate flooring is manufactured at the plant in Wismar (DE).

The declared weight per unit area of the laminate flooring is calculated on an area basis. This is based on the average calculation for the HDF boards, which is based on volume. The average value for the impregnation used for the coating was also calculated on the basis of annual production. As the quantities of melamine or urea impregnating resin used vary depending on the product, the quantities used for the calculation reflect the annual average on a pro rata basis.

The declared entity reflects a representative average.

3.2 System boundary

The LCA of EGGER laminate flooring includes a cradle-to-gate consideration (cradle to factory gate) of the environmental impacts that occur with modules C1-C4 and module D (A1-A3, +C, +D). The following life cycle phases are taken into account in the analysis:

Module A1– A3 | Production stage
The production stage includes the expenses for the supply of raw materials (logs, wood chips, production of the gluing system, auxiliary materials, etc.) and the associated transport in relation to the production site in Wismar (Germany). HDF board production, provision of the adhesive system and resins, production of the impregnation, coating and finishing as well as storage are taken into account. The adhesive system and saturating resins are manufactured at the Wismar location. The associated material and energy flows and electrical energy is generated by the company's own biomass power plant, and electricity is also purchased from the German grid.

Module C1 | Dismantling / Demolition
The products are dismantled manually or with minimal use of machinery. It can therefore be assumed that the energy required to dismantle the products is a negligible factor, which means that no environmental impact from the dismantling of the products is declared in Module C1.

Module C2 | Transport to waste treatment
Module C2 includes transport to waste treatment. For this purpose, transport by lorry over a distance of 50 km is used as a scenario.

Module C3 | Waste processing
Module C3 declares the biogenic carbon dioxide emissions in energetic utilisation at the end of the product life. Furthermore, chopping after product disassembly is also considered. The wood products and with them the material-inherent properties leave the product system as secondary fuel in module C3.

Module C4 | Disposal
The scenario used declares the energy recovery of the wood products, which means that no environmental impact from the waste treatment of the products in C4 are to be expected.

Module D | Benefits and loads outside the system boundary Module D describes the energy utilisation of the product at the end of its life, including the corresponding energy substitution potential, in the form of a European average scenario.

3.3 Estimates and assumptions

Assumptions and estimates are used in the absence of a representative background data set to represent the environmental impact of certain raw materials. All assumptions are supported with detailed documentation and correspond to the best possible representation of reality given the available data. A generic data set from the MLC Database for spruce roundwood was used as background data set for roundwood. A large part of the wood processed by EGGER is needle fibre wood. For other wood types used, the data set for spruce roundwood should be considered as an approximation.

3.4 Cut-off criteria

All inputs and outputs for which data are available and from which a significant contribution can be expected are included in the LCA model. Missing data are populated when a data basis is available using conservative assumptions for average data or generic data and are documented accordingly. Only data with a contribution of less than 1% were removed. Neglecting these data can be justified by the limited effect to be expected. Thus, no processes, materials or emissions were neglected that are expected to make a significant contribution to the environmental impact of the products under consideration. It can be assumed that the data were recorded in full and that the total sum of the neglected input flows does not exceed 5 % of the energy and mass input. Expenses for machinery and

infrastructure were not taken into account.

3.5 Background data

The *MLC 2024.2* background database in *LCA FE* software version 10 was used to calculate the Environmental Performance Assessment. In addition, secondary data from recognised literature sources (e.g. *Rüter & Diederichs 2012*) were used.

3.6 Data quality

The data was collected via spreadsheets specifically created by EGGER. Questions were answered through an iterative process in writing via email, phone, or in persona/web meetings. Given the intense discussion concerning a representation of material and energy flows in the company that is as close as possible to reality, led by EGGER and Daxner & Merl, the high quality of collected foreground data can be assumed. A consistent and uniform calculating procedure was applied in line with *ISO 14044*.

When selecting the background data, the technological, geographical, and time-related representativeness of the data basis was taken into consideration. When specific data was missing, generic data sets or a representative average were used. The

The MLC background data sets used are not older than ten years.

The assessment of the representativeness of the average can be found in section 3.1.

3.7 Period under review

As part of the collection of foreground data, the life cycle inventory was collected for the production year May 2022-April 2023 (financial year 2023). The data are based on the annual volumes used and produced.

3.8 Geographic Representativeness

Land or region, in which the declared product system is manufactured, used or handled at the end of the product´s lifespan: Germany

3.9 Allocation

The carbon dioxide content and primary energy content of the products have been balanced on the basis of their inherent material characteristics in line with the appropriate underlying physical relationships.

A price allocation according to *Rüter & Diederichs*, 2012 was used to calculate the environmental impact of the by-products of the sawing line.

In addition to laminate flooring, OSB, MDF/HDF, glue and impregnating resin are also produced at the Wismar plant. The delineation of material and energy flows between the products is based on analyses from EGGER's controlling system.

3.10 Comparability

Basically, a comparison or an evaluation of EPD data is only possible if all the data sets to be compared were created according to *EN 15804* and the building context, respectively the product-specific characteristics of performance, are taken into account. In principle comparing or evaluating EPD data is only possible if all data sets to be compared were prepared according to *EN 15804* and the building context and/or the product-specific performance characteristics are taken into account.

The MLC 2024.2 background database in *LCA* FE software version 10 was used to calculate the Environmental Performance Assessment.

4. LCA: Scenarios and additional technical information

Characteristic product properties of biogenic carbon

During tree growth, the wood assimilates carbon dioxide and stores biogenic carbon. The carbon stored in the product is declared in the following table.

Information describing the biogenic carbon content at the plant gate

Name	Value	Unit
Biogenic carbon content in product	2.96	kg C
Biogenic carbon content in accompanying packaging	0.04	kg C

Note: 1 kg of biogenic carbon is equivalent to 44/12 kg of CO2.

Note: 1 kg of biogenic carbon is equivalent to 44/12 kg of CO_2.

Einbau ins Gebäude (A5)

The end of life of the product packaging is not declared in module A5, but is listed as technical scenario information.

Name	Value	Unit
Packaging (polyethylene)	0.015	kg
Packaging (cardboard)	0.087	kg
Packaging (palett)	0.009	kg

The end-of-life scenario used in this LCA study is based on the following assumptions:

End of life (C1–C4)

Name	Value	Unit
Energy recovery	7.16	kg

Reuse, recuperation and recycling potential (D), relevant scenarios

Name	Value	Unit
Net flow in module D [balance moisture of 12 %] [Ausgleichsfeuchte von 12 %]	4,01	kg/m²
Processing rate	100	%
Efficiency of the system	68	%

The product reaches the end of the waste status after it is removed from the building, transported for preparation, and the chopping of the product. For the end of life of the laminate flooring, energy recovery as a secondary fuel is assumed. The energetic

Utilisation takes place in a biomass power plant. System-specific figures correspond to a European average scenario, given that the main sales market of EGGER products is

focussed on Europe. The scenario foresees a processing rate of the wood-based materials after removal from the building of 100%. This assumption must be adapted accordingly after using the results in the context of the building. At the end of the product's life, a comparable equilibrium moisture content to the delivery moisture content is assumed. This value may fluctuate significantly depending on the storage of the product prior to energetic utilisation.

5. LCA: Results

The following table contains the life cycle assessment results for a declared unit of 1 m² of average EGGER laminate flooring (7.16 kg/m²).

DESCRIPTION OF THE SYSTEM BOUNDARY (X = INCLUDED IN LCA; MND = MODULE OR INDICATOR NOT DECLARED; MNR = MODULE NOT RELEVANT)

Product stage			Construction process stage		Use stage							End of life stage				Benefits and loads beyond the system boundaries
Raw material supply	Transport	Manufacturing	Transport from the gate to the site	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
X	X	X	MND	MND	MND	MND	MNR	MNR	MNR	MND	MND	X	X	X	X	X

RESULTS OF THE LCA - ENVIRONMENTAL IMPACT according to EN 15804+A2: 1 m² Laminatfußboden (7,16 kg/m²)

Parameter	Unit	A1-A3	C1	C2	C3	C4	D
Global Warming Potential total (GWP-total)	kg CO_2 eq	-6.25E+00	0	2.84E-02	1.09E+01	0	-1.25E+01
Global Warming Potential fossil fuels (GWP-fossil)	kg CO_2 eq	4.39E+00	0	2.79E-02	4.28E-02	0	-3.13E+00
Global Warming Potential biogenic (GWP-biogenic)	kg CO_2 eq	-1.06E+01	0	7.8E-05	1.09E+01	0	-3.1E-04
Global Warming Potential luluc (GWP-luluc)	kg CO_2 eq	3.7E-03	0	4.56E-04	6.5E-06	0	-9.36E+00
Depletion potential of the stratospheric ozone layer (ODP)	kg CFC11 eq	9.14E-12	0	3.99E-15	9.7E-13	0	-3.41E-11
Acidification potential of land and water (AP)	mol H^+ eq	1.04E-02	0	9.61E-05	8.27E-05	0	3.86E-03
Eutrophication potential aquatic freshwater (EP-freshwater)	kg P eq	1.41E-05	0	1.16E-07	1.78E-07	0	-6.32E-06
Eutrophication potential aquatic marine (EP-marine)	kg N eq	5.71E-03	0	4.46E-05	2.06E-05	0	7.81E-04
Eutrophication potential terrestrial (EP-terrestrial)	mol N eq	4.57E-02	0	5E-04	2.16E-04	0	9.04E-03
Formation potential of tropospheric ozone photochemical oxidants (POCP)	kg NMVOC eq	1.19E-02	0	9.18E-05	5.46E-05	0	3.04E-03
Abiotic depletion potential for non fossil resources (ADPE)	kg Sb eq	3.67E-07	0	2.36E-09	8.01E-09	0	-3.16E-07
Abiotic depletion potential for fossil resources (ADPF)	MJ	1.16E+02	0	3.57E-01	8.99E-01	0	-5.73E+01
Water use (WDP)	m^3 world eq deprived	1.25E-01	0	4.2E-04	1.18E-02	0	-2.04E-01

RESULTS OF THE LCA - INDICATORS TO DESCRIBE RESOURCE USE according to EN 15804+A2: 1 m² Laminatfußboden (7,16 kg/m²)

Parameter	Unit	A1-A3	C1	C2	C3	C4	D
Renewable primary energy as energy carrier (PERE)	MJ	4.35E+01	0	3.08E-02	1.07E+02	0	-2.28E+01
Renewable primary energy resources as material utilization (PERM)	MJ	1.06E+02	0	0	-1.06E+02	0	0
Total use of renewable primary energy resources (PERT)	MJ	1.5E+02	0	3.08E-02	6.49E-01	0	-2.28E+01
Non renewable primary energy as energy carrier (PENRE)	MJ	9.7E+01	0	3.57E-01	1.97E+01	0	-5.73E+01
Non renewable primary energy as material utilization (PENRM)	MJ	1.89E+01	0	0	-1.88E+01	0	0
Total use of non renewable primary energy resources (PENRT)	MJ	1.16E+02	0	3.57E-01	8.99E-01	0	-5.73E+01
Use of secondary material (SM)	kg	8.74E-02	0	0	0	0	0
Use of renewable secondary fuels (RSF)	MJ	5.2E+01	0	0	0	0	8.06E+01
Use of non renewable secondary fuels (NRSF)	MJ	0	0	0	0	0	0
Use of net fresh water (FW)	m^3	7.34E-03	0	3.43E-05	4.97E-04	0	-1.25E-02

RESULTS OF THE LCA – WASTE CATEGORIES AND OUTPUT FLOWS according to EN 15804+A2: 1 m² Laminatfußboden (7,16 kg/m²)

Parameter	Unit	A1-A3	C1	C2	C3	C4	D
Hazardous waste disposed (HWD)	kg	1.08E-05	0	1.37E-11	1.3E-09	0	-4.61E-08
Non hazardous waste disposed (NHWD)	kg	2.46E-01	0	5.83E-05	7.4E-04	0	2.72E-04
Radioactive waste disposed (RWD)	kg	7.6E-04	0	6.51E-07	1.44E-04	0	-5.05E-03
Components for re-use (CRU)	kg	0	0	0	0	0	0
Materials for recycling (MFR)	kg	0	0	0	0	0	0
Materials for energy recovery (MER)	kg	0	0	0	4.01E+00	0	0
Exported electrical energy (EEE)	MJ	0	0	0	0	0	0
Exported thermal energy (EET)	MJ	0	0	0	0	0	0

RESULTS OF THE LCA – additional impact categories according to EN 15804+A2-optional: 1 m² Laminatfußboden (7,16 kg/m²)

Parameter	Unit	A1-A3	C1	C2	C3	C4	D
Incidence of disease due to PM emissions (PM)	Disease	9.34E-08	0	6.8E-10	6.92E-10	0	2.01E-09

	incidence						
Human exposure efficiency relative to U235 (IR)	kBq U235 eq	1E-01	0	9.44E-05	2.36E-02	0	-8.32E-01
Comparative toxic unit for ecosystems (ETP-fw)	CTUe	1.77E+01	0	2.65E-01	2.61E-01	0	-9.36E+00
Comparative toxic unit for humans (carcinogenic) (HTP-c)	CTUh	1.54E-08	0	5.35E-12	1.46E-11	0	-2.56E-10
Comparative toxic unit for humans (noncarcinogenic) (HTP-nc)	CTUh	1.43E-07	0	2.4E-10	2.24E-10	0	3.64E-09
Soil quality index (SQP)	SQP	4.25E+02	0	1.76E-01	3.78E-01	0	-1.33E+01

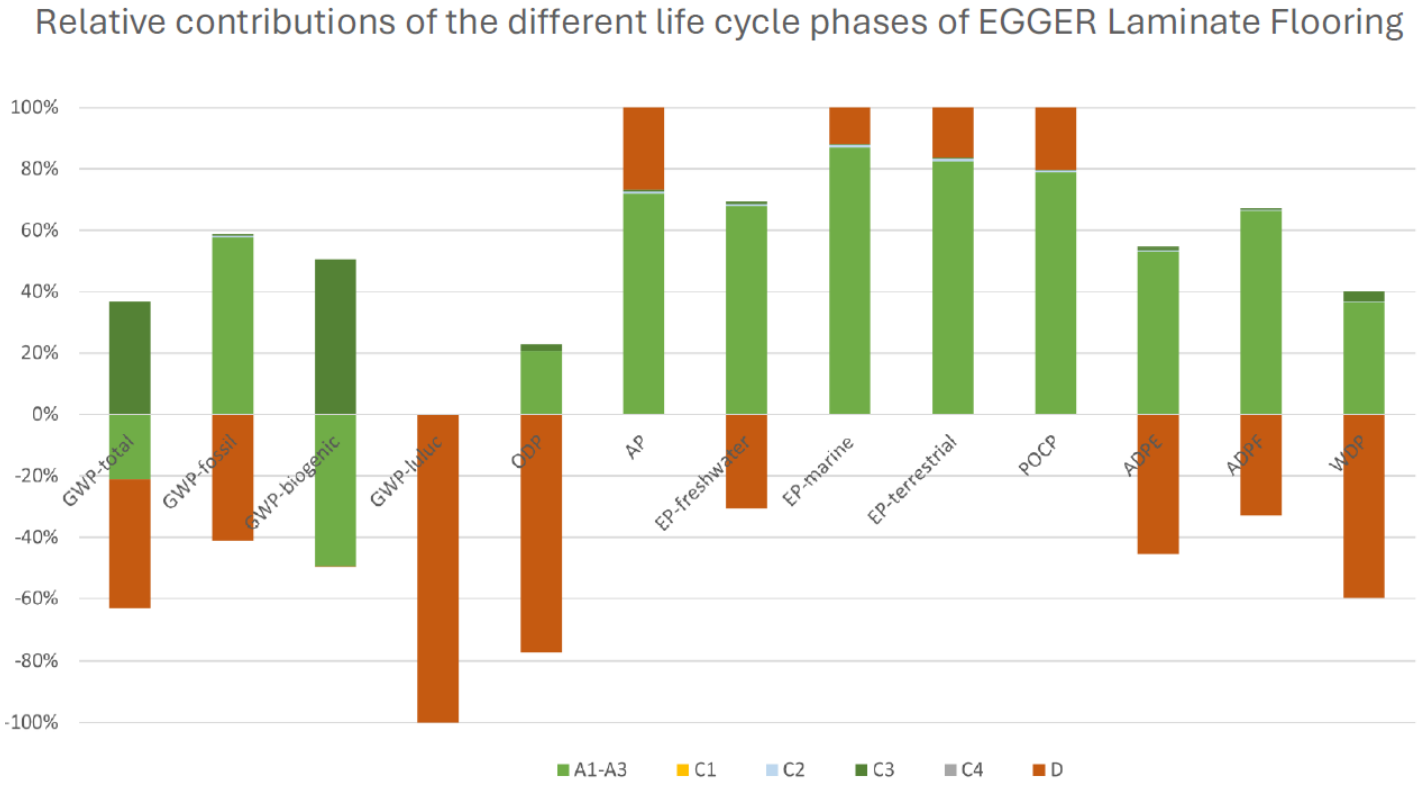
Limitation note 1 - applies to the indicator 'Potential effect from human exposure to U235'
This impact category mainly addresses the possible effect of low dose ionising radiation on human health in the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents and occupational exposure, nor does it consider the disposal of radioactive waste in underground facilities. Potential ionising radiation emitted from soil, radon and some building materials is also not measured by this indicator.

Caveat 2 - applies to the indicators: 'Potential for depletion of abiotic resources non-fossil resources', 'Potential for depletion of abiotic resources fossil fuels', 'Water depletion potential (user)', 'Potential toxicity comparator for ecosystems', 'Potential toxicity comparator for humans carcinogenic effect', 'Potential toxicity comparator for ecosystems', 'Potential toxicity comparator for humans carcinogenic effect'.ecosystems', 'Potential toxicity comparison unit for human carcinogenic effect', 'Potential toxicity comparison unit for human non-carcinogenic effect', 'Potential soil quality index'. The results of these environmental impact indicators must be used with caution, as the uncertainties in these results are high or because there is only limited experience with the indicators. This EPD was created using a software tool.

6. LCA: Interpretation

The following interpretation summarises the life cycle assessment results in relation to a declared entity of 1 m² of average EGGER laminate flooring.

For the potential global warming potential (GWP) in the production phase (**module A1-A3**) of laminate flooring, the total value is negative. This is due to the material use of wood in the products. While the tree is growing, the wood stores carbon dioxide as biogenic carbon (negative greenhouse potential) and does therefore not have a greenhouse effect as long as it is stored in the product. Only when the products are utilised for energy recovery at the end of their life (**module C3**), the stored carbon is released into the atmosphere in the form of carbon dioxide emissions and contributes to potential global warming. The energy use of waste wood was modelled as CO2-neutral.
The negative values in Module D can be explained by the fact that the energy generated by the energetic utilisation of the product can replace the combustion of fossil fuels. In this way, more emissions of (mainly fossil) fuels are avoided than those emitted through the use of the energy stored in the wood.



The potential global warming potential (GWP) from the production phase (module A1-A3) of laminate flooring can be largely attributed to the costs of producing the HDF board and its upstream chain. The second largest driver is impregnation.

EGGER laminate flooring is available in thicknesses of 6 mm, 8 mm, 10 mm and 12 mm. Due to the layered structure of the soil, deviations between the products due to the varying thickness of the HDF core can be expected. As the HDF core is the main driver in the environmental profile of the products,

scaling can be applied to specific products, taking into account the specific product thickness. A slight inaccuracy is to be expected from the fact that the impregnation remains constant for all product thicknesses. Due to the comparatively higher influence of impregnation in the LCA results compared to the mass fraction in the product, the thickness-related scaling of the results tends to underestimate the effects of the thinner products, whereas the potential impact of products with greater thickness tends to be underestimated.

According to the results of the sensitivity analysis, scaling the CO_2 footprint of specific soils based on product weight leads to an overestimation of the impact of thinner products and an underestimation of the potential impact of products with greater thickness by around 10%.

The results of the previous EPD (EPDEGG 20180194IBC1DE) are not directly comparable with the present, updated version due to the update of the underlying methodology in accordance with *EN 15804+A2*.

7. Requisite evidence

7.1 Formaldehyde emissions

The formaldehyde measurement is carried out annually at the development and testing laboratory in Dresden (EPH) as part of the TÜV Proficert monitoring. The floor covering test is carried out in accordance with test standard *EN 16516*.
Beyond the annual monitoring test, the rawboards used are continuously monitored in the internal laboratory.

Formaldehyd Emissionen

Name	Value	Unit
Formaldehyde after 3 days	7	µg/m³

The requirements according to the AgBB scheme of <0.060 mg FO/m³ were not met after three days, thus fulfilling the requirements of the health assessment of building products.

7.2 VOC emissions

The emission measurement is carried out annually at the development and testing laboratory in Dresden (EPH) as part of the TÜV Proficert monitoring. The floor covering sample is analysed for volatile organic compounds (VOCs) in accordance with the *EN 16516* test standard.

In addition to the annual monitoring test, the production parameters of the rawboards used are continuously monitored and compared with test results from the laboratory in relation to each other.

VOC Emissionen

Name	Value	Unit
TVOC (C6 - C16) after 3 days	262	µg / m³
SVOC (C16 - C22) after 3 days	< 5	µg / m³
VOC without NIK after 3 days	< 5	µg / m³
R-Wert (dimensionless after 3 days	0.731	
Carcinogens* after 3 days	n.d.	

n.d. - not detected
*according to EU category

1A and 1B according to *CLP Regulation (EC) No. 1272/2008*
The material fulfils the requirements of the principles for health evaluation of building products after three, seven and the termination criteria after 28 days (*AgBB scheme, NIK list*).

7.3 Additional information on the pre-treatment of ingredients

No post-consumer recycled wood is used in the product. There is no reason to assume that the product is polluted by recycled ingredients from the preliminary processing.

8. References

Standards

EN 13329
DIN EN 13329:202403, Laminate flooring specifications, requirements and test methods.

EN 13501-1
DIN EN 135011:2019, Fire resistance classification of construction products and building elements - Part 1: Classification based on the results of reaction to fire inspections of construction products.

EN 16516
DIN EN 16516:2017, Construction products: Assessment of release of dangerous substances - Determination of emissions into indoor air.

EN 15804
DIN EN 15804:2012+A2:2019+AC:2021, Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products.

EN 16810
DIN EN 16810:201708, Resilient, textile and laminate floor coverings Environment Product declarations Product category rules.

ISO 14025
DIN EN ISO 14025:201110, Environmental labels and declarations — Type III Environmental declarations — Principles and procedures

ISO 14001
Environmental management systems — Requirements with guidance for use

ISO 14044
DIN EN ISO 14044:200610, Environmental management — Life cycle assessment — Requirements and guidelines.

ISO 9001
ISO 9001:201511, Quality management systems — Requirements

ISO 15686
Buildings and constructed assets — Service life planning

ISO 16000-9
ISO 160009:202408, Indoor air - Part 9: Determination of the emission of volatile organic compounds from samples of building products and furnishing — Emission test chamber method

ISO 50001
ISO 50001:2018, Energy management systems — Requirements with guidance for use

Further literature

AgBB scheme
AgBB 2018, Requirements for indoor air quality in buildings: Health assessment of emissions of volatile organic compounds (VVOC, VOC and SVOC) from building products, Joint for Health Assessment of Building Products (AgBB).

AVV
Ordinance on the European Waste List of the Federal Republic of Germany, issued on 10 December 2001, (BGBl. I p. 3379).

Biocidal Products Ordinance
Regulation (EU) No 528/2012 of the European Parliament and of the Council
of 22 May 2012 on the making available on the market and use of biocidal products.

CLP Regulation
Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures.

CPR regulation
Regulation (EU) No 305/2011 of the European Parliament and of the Council of 9 March 2011 laying down harmonised conditions for the marketing of building products and repealing Council Directive 89/106/EEC Text with EEA relevance.

ECHA list/candidate list
published in accordance with Article 59(10) of the REACH Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

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LCA FE
LCA FE 10, LCA for Experts Software System and Database for Life Cycle Engineering. Version 10.9. Sphera, 19922023.

MLC
MLC 2024.2, Database for Life Cycle Engineering implemented in LCA for Experts software system. DB 2024.2 Sphera,1992 2024. available at: https://lcadatabase.sphera.com/

LCI List
NIK list, Lowest Concentrations of Interest for the assessment of emissions from building products into indoor air, published as part of the AgBB scheme.

PCR Part A
Product categoryRules for building-related products and services. Part A: Calculation rules for the LCA and requirements for the project report according to EN15804+A2:2019. Version 1.3. Berlin: Institut Bauen und Umwelt e.V. (ed.), 2022.

PCR: Floor coverings
Product categoryRules for building-related products and services. Part B: EPD requirements for floor coverings. Version 11, Berlin: Institut Bauen und Umwelt e.V., 01.08.2024.

Rüter & Diederichs 2012
Rüter, S.; Diederichs, S.: Life Cycle Assessment Basic Data for Building Products Made of Wood. Work report from the Institute of Wood Technology and Wood Biology No. 2012/1. Hamburg: Johann Heinrich von Thünen Institute.

Publisher

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