ENVIRONMENTAL PRODUCT DECLARATION

in accordance with ISO 14025 and EN 15804+A2

Declaration owner	Elka Holzwerke GmbH
Publisher	Institut Bauen und Umwelt e.V. (IBU)
Programme operator	Institut Bauen und Umwelt e.V. (IBU)
Declaration number	EPD-ELK-20250639-IBA3-DE
Issue date	04/08/2026
Valid until	03/08/2031

vita 3-layer solid wood panel
Elka Holzwerke GmbH

English translation of the German original | Declaration ID retained
Translation not separately verified by IBU.

www.ibu-epd.com | https://epd-online.com



1. General Information

Elka Holzwerke GmbH

Programme operator

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

Declaration number

EPD-ELK-20250639-IBA3-DE

This declaration is based on the Product Category Rules:

Solid wood products, 01/08/2021
(PCR reviewed and approved by the independent expert committee (SVR))

Issue date

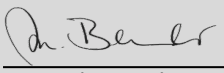
04/08/2026

Valid until

03/08/2031



Dipl.-Ing. Hans Peters
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vita 3-layer solid wood panel

Declaration owner

Elka Holzwerke GmbH
Hochwaldstrasse 44
54497 Morbach
Germany

Declared product / Declared unit

1m3

Scope:

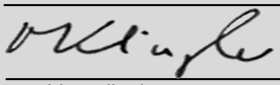
This EPD covers the production of vita solid wood panels by elka Holzwerke GmbH in Morbach, Germany.

The declaration owner is responsible for the underlying information and evidence. IBU accepts no liability for manufacturer information, life cycle assessment data or supporting evidence.

This EPD was prepared in accordance with EN 15804+A2. Hereafter, the standard is referred to simply as EN 15804.

Verification

The European standard EN 15804 serves as the core PCR.
Independent verification of the declaration and data according to ISO 14025:2011
☐ internal ☒ external



Matthias Klingler,
(Independent verifier)

2. Product

2.1 Product description / Product definition

vita is a 3-layer solid wood panel made from Douglas fir or spruce. It consists of two face layers with parallel grain directions and a core layer with its grain at 90° to the face layers. The face and core layers are made from dried, planed sawn timber and bonded together.
As a multilayer solid wood panel, it meets both the emission requirements for furniture panels and the structural performance requirements for construction panels. Its excellent dimensional stability, high strength and low weight allow a wide range of applications.

vita solid wood panels are manufactured to EN 13353 and subject to factory production control for CE marking under EN 13986; they are therefore approved for construction use. For load-bearing applications, characteristic values for the calculation and design of timber structures are given in EN 12369:2008 Part 3. Formaldehyde release from the solid wood panel meets formaldehyde emission class E1E05 under EN 13986.

Regulation (EU) No. 305/2011 (CPR) applies to placing the product on the EU/EFTA market (except Switzerland). The product requires a Declaration of Performance with reference to EN 13986:2004+A1:2015: 03.01.2020, DoP-SWP-10-200103, DoP-SWP-20-200103 or DoP-SWP-21-200103, and CE marking. Use is subject to the respective national provisions. The vita solid wood panel meets the requirements of QDF guideline A-01.

Details of panel lay-ups are provided in the Declarations of Performance published by the company at www.elka-holzwerke.de. Further product properties are given in the product data sheets.
Since 2017, the low-emission vita spruce solid wood panel in grades AB/B and B/C has been certified with the 'Blue Angel' environmental label (www.blauer-engel.de) for its particular environmental friendliness.

2.2 Application

The natural wood surfaces and furniture-panel emission performance, combined with the structural properties of a construction panel (approved for construction use), give vita solid wood panels a wide range of uses:
· High-quality furniture and interior fit-out
· Structural timber construction, commercial buildings, renovation
· Cladding of all kinds
· Office and commercial interiors
· Shopfitting and exhibition stands
· Packaging
· Roofs and under-roof lining
The solid wood panel is suitable for outdoor climatic conditions when protected from direct weather exposure (humid conditions), as defined by service class 2 under EN 1995-1:1993 and biological hazard class 2 under EN 335-2:1992, e.g. behind external cladding or beneath a roof. Short-term weather exposure, e.g. during construction, is also possible.

2.3 Technical Data

Performance values (partly expressed as ranges) for the product's essential characteristics are set out in the Declarations of Performance under EN 13986:2004+A1:2015: 03.01.2020, DoP-SWP-10-200103, DoP-SWP-20-200103 and DoP-SWP-21-200103. Values for individual panel dimensions are given in the Declarations of Performance.

Construction data

Description	Value	Unit
Wood species (trade names) under EN 1912	Spruce, Douglas fir	-
Moisture content under EN 13183-1	10	%
Length (min. - max.)	252,5 - 505	m
Width (min. - max.)	102,5 - 205	m
Height (min. - max.)	15 - 59	m
Water vapour diffusion-equivalent air layer thickness under EN ISO 12572	dry 185, wet 64	m
Formaldehyde emissions under EN 717-1	< 0,03	µg/m^3

2.4 Delivery status

The solid wood panel is available in various grades and thicknesses. Face lamella thickness ranges from 4 to 9 mm, and panel thickness from 16 to 50 mm. The standard size is 505 x 205 cm. Panels measuring 505 x 102.5 cm or 252.5 x 102.5 cm can optionally be supplied with tongue and groove. The following grades are produced as standard or on request: AB/B, B/C+, B/C, C+/C, AB/C, B/B and C/D.

2.5 Base materials / Ancillary materials

vita solid wood panels are mainly made from spruce; a small proportion is made from Douglas fir. The declared unit in this EPD is a weighted average of all vita solid wood panel variants. Table 1 shows the composition of the declared unit, assuming an oven-dry density of 430 kg/m³ for spruce and 470 kg/m³ for Douglas fir. At delivery, the wood in the product has an average moisture content of u = 10%, corresponding to a water content of 8.7% by mass of the product. Other constituents are melamine-urea-formaldehyde resin (MUF), polyvinyl acetate (PVAc) and phenol-formaldehyde resin (PF) based wood filler for repairing surface defects.

Description	Value	Unit
Wood, spruce (oven-dry)	84,5	%
Wood, Douglas fir (oven-dry)	2,3%	%
Water	8,7	%
Polyvinyl acetate (PVAc)	0,7	%
Melamine-urea-formaldehyde resin (MUF)	3,7	%
Phenol-formaldehyde resin (PF)	0,1	%

The product/article/at least one constituent article contains substances on the Candidate List above 0.1% by mass: no.

The product/article/at least one constituent article contains other category 1A or 1B CMR substances not on the Candidate List above 0.1% by mass in

at least one constituent article: no.

Biocidal products have been added to this construction product or it has been treated with biocidal products (making it a treated article within the meaning of the Biocidal Products Regulation (EU) No. 528/2012): no.

2.6 Manufacture
To manufacture vita solid wood panels, purchased logs are first debarked and sorted at the sawmill. The debarked logs are then sawn, edged and cross-cut. The sawn timber is kiln-dried to a wood moisture content (u) of 10%. Heat is generated by burning recovered wood. An oil-fired boiler provides additional heat when required.

The solid wood panel plant processes kiln-dried sawn timber from in-house production as well as purchased kiln-dried timber. The dried timber is cut into core or face layers and bonded into panels with white glue (polyvinyl acetate, PVAc). The face layers are then pressed onto the core layer using melamine-urea-formaldehyde resin (MUF). Some core layers are purchased as semi-finished products. The resulting panels are sanded or planed, cut to size and machined. Surface defects are repaired with phenol-formaldehyde resin (PF) based wood filler. The finished vita solid wood panels are packaged for transport.

2.7 Environment and health during manufacture
Exhaust air is cleaned in accordance with statutory requirements. Current knowledge indicates no adverse effects on water or soil. Process wastewater is discharged into the local sewer system. Particularly noisy machinery is enclosed using appropriate structural measures.

2.8 Product processing / Installation
vita solid wood panels can be processed with commercially available tools suitable for solid wood. Occupational health and safety instructions must also be followed during processing and assembly. Standard protective equipment, suitable work clothing, safety goggles and a dust mask (where dust is generated) must be used when processing or installing vita solid wood panels.

2.9 Packaging
vita solid wood panels are packaged at the factory gate according to customer requirements.
Average quantities of packaging materials per declared unit are listed below:

· Cardboard: 0.58 kg
· Film (PE, polyethylene): 0.39 kg
· Plastic strapping (PET, polyurethane): 0.14 kg
· Wooden pallet (Euro pallet): 0.05 kg
· Woven strapping: 0.0001 kg

2.10 Condition of use
Throughout its service life, the composition of the vita solid wood panel remains as stated in section 2.6 Base materials / Ancillary materials. No material changes or environmentally relevant inherent material properties are known. During use, the product stores approximately 192.82 kg of carbon, which corresponds to approximately 756 kg CO2. If the product is used for energy recovery at the end of its life, the biogenic carbon stored in the wood would be emitted as CO2 in the event of complete oxidation.

2.11 Environment and health during use
Based on current knowledge, no hazards to water, air or soil arise when the products are used as intended. Health protection: no adverse health effects or impairments are expected based on current knowledge. Thanks to elka's special bonding process, vita solid wood panels have particularly low formaldehyde emissions. At 0.03 ppm under EN 717-1, formaldehyde emissions are well below the current E1/E0 requirements.
Since 2017, vita spruce solid wood panels in grades AB/B and B/C have held the 'Blue Angel' environmental label for their particular environmental friendliness.

2.12 Reference service life
As the use stage (modules B1-B6) is not declared, no reference service life needs to be stated. Ageing corresponds to the normal conditions for this product group.

2.13 Extraordinary effects
Fire
Reaction-to-fire classification is given under EN 13501:1 or applicable national regulations. EN 13501:1 defines the following classes:
Combustibility: A1, A2, B, C, D, E and F;
Flaming droplets / particles: d0, d1 or d2;
Smoke production: s1, s2 or s3.

Fire performance

Description	Value
Reaction-to-fire class	D
Flaming droplets	d0
Smoke production	s2

Water
No constituents that could be hazardous to water are leached out. The declared product is not resistant to prolonged exposure to water (standing water).

Mechanical destruction
vita solid wood panels exhibit the fracture behaviour typical of solid wood. Deformation is initially elastic and subsequently plastic. Failure/fracture is preceded by delamination or tearing and splintering of the fibres. This causes no environmental impacts.

2.14 Re-use phase
After the use stage, vita solid wood panels can readily be re-used or repurposed if selectively dismantled. If re-use is not possible, their high calorific value of 17.4 MJ/kg (at u = 10% moisture content) makes energy recovery an option in a recovered-wood combustion plant or biomass CHP plant to generate process heat and electricity. Energy recovery must comply with the German Federal Immission Control Act (BImSchG). Material recycling as a secondary raw material for particleboard production is also possible.

2.15 Disposal

If no other use can be found for the wood waste, it must be disposed of under country-specific regulations. Landfilling recovered wood is prohibited by section 9 of the German Waste Wood Ordinance (AltholzV). Under Annex III of the Ordinance of 15.02.2002, untreated wood is assigned AVV waste code 17 02 01 (treated wood: 17 02 04, depending on the wood preservative). Used packaging materials can undergo thermal waste treatment. The following AVV waste codes apply: 150101 (paper and cardboard packaging), 150102 (plastic packaging), 150103 (wooden packaging).

2.16 Further information
Further information is available at https://www.elka-holzwerke.de.

3. LCA: Calculation Rules

3.1 Declared unit
This Environmental Product Declaration refers to a declared unit of 1 m³ of vita solid wood panel. The declared unit has an average density of 475 kg/m³ and a wood moisture content of 10% at delivery. The adhesive content is 4.5%.

Declared unit and mass reference

Description	Value	Unit
Declared unit	1	m^3
Density	475,1	kg/m^3
Wood moisture content at delivery	10	%
Conversion factor (in kg/m³)	0,0021048	-

3.2 System boundary
This EPD is of the 'cradle to gate with options' type. It covers modules A1 Raw material supply, A2 Transport, A3 Manufacturing, A5 Packaging, C1 Deconstruction / Demolition, C2 Transport to a waste processor/recycling centre, C3 Waste processing and recycling, and C4 Disposal.

A1 Raw material supply: This module covers the production and supply of all raw materials and semi-finished products needed to manufacture 1 m³ of the product.

A2 Transport: This module covers transport of the raw materials and semi-finished products required for manufacture to the production site.

A3 Manufacturing: This module covers the energy and material flows needed to manufacture the product from the raw materials in A1.

A5: The A5 Packaging module is declared, but only covers disposal of the product packaging. It does not cover installation of the product in the building.

C1 declares dismantling, including deconstruction or demolition of the product from the building, together with initial sorting on the construction site.

C2 covers transport to the waste processor, while C3 covers processing and sorting of recovered wood. In accordance with EN 16485, C3 also records as outflows the CO2 equivalents of the wood's inherent carbon, and the renewable and non-renewable primary energy contained in the product (PERM and PENRM). C4 accounts for disposal of the declared product. No environmental burdens arise in C4, as the product is recovered.

D: Potential credits from modules A1-A3 are declared here, e.g. from energy recovery from by-products.

3.3 Estimates and assumptions
Energy and material flows required for production were measured on site and relate to the average production volume of the previous year. Background data for raw materials were taken from the ecoinvent 3.8 en15804gd database. Any on-site emissions from combustion or other processes are estimated from flue gas analysis results and literature data. All other data are based on average values.

3.4 Cut-off criteria
All known energy and material flows contributing more than 1% of energy or material inputs were included. The total of all excluded flows is below 5%. This ensures that no energy or material flows with a significant effect on the product's environmental impacts have been omitted.

3.5 Background data
Background data are taken from the ecoinvent 3.8 en15804gd database.

Electricity mix emission factor (electricity, low voltage, residual mix | electricity, low voltage | EN15804GD, U - DE): 0.114 kg CO2 eq / kWh

3.6 Data quality
Foreground data are based on extensive, detailed data collection at the production site. All foreground data were linked to corresponding datasets from the ecoinvent 3.8 en15804gd database and to the LCA model developed by the Technical University of Munich specifically for the easyEPD tool. The quality of the background data in the ecoinvent 3.8 en15804gd database can be regarded as very good.

3.7 Period under review
2019

3.8 Geographical representativeness
Country or region where the declared product system is manufactured and, where applicable, used and treated at end of life: Germany

3.9 Allocation
Allocation of forestry processes in A1 is already defined in the background data. Forestry processes are allocated on a process-specific basis and by mass. All

energy, ancillary materials and operating supplies used in module A3 were physically allocated to the different products by volume. Timber-drying inputs were likewise physically allocated to the different products by the mass of water evaporated.

Economic allocation was used for sawmill by-products to distribute the environmental impacts of the inputs between products and co-products. Inherent material properties, such as biogenic carbon content, are unaffected by economic allocation and are allocated physically.

3.10 Comparability
In principle, comparison or evaluation of EPD data is only possible if all datasets being compared were prepared in accordance with EN 15804 and the building context or product-specific performance characteristics are considered. In principle, EPD data can only be compared or evaluated when all datasets being compared comply with EN 15804 and the building context or product-specific performance characteristics are taken into account.
LCA modelling was performed using the easyEPD tool. All background data were taken from the ecoinvent 3.8 en15804gd database or from literature sources.

4. LCA: Scenarios and Additional Technical Information

Characteristic product properties: biogenic carbon
Biogenic carbon:
Under DIN EN 15804+A2, material flows with specific inherent properties, such as biogenic carbon content, are always allocated according to physical flows, regardless of the allocation principle chosen for the processes.

Information on biogenic carbon content at the factory gate

Description	Value	Unit
Biogenic carbon in the product	192,82	kg C
Biogenic carbon in the associated packaging	0,44	kg C

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

Module A5: Installation and packaging
Module A5 only covers disposal of the packaging produced in A3; the packaging leaves the system here.

End of life (C1-C4)
After the use stage, mechanical demolition and separation of the structural timber take place. Modelling is based on IVANICA et al. (2022) and MANTAU et al. (2013), covering machine operating hours, water consumption and container use. A transport distance of 20 km to the waste processor is assumed. Bonded solid wood products are classified under category II of the Waste Wood Ordinance (2002). Two scenarios are considered:

Energy recovery: Recovered wood is used in biomass CHP plants > 1 MW. Electrical efficiency of 15%, thermal efficiency of 45% and overall efficiency of 60% are assumed. Heat replaces natural gas; electricity replaces the German electricity mix. As recovered wood is already used to generate heat during manufacturing, only part reaches module D as a net flow: specifically, 82.6% of the recovered wood.

Material recycling: Recovered wood is assumed to replace an average mix of wood chips used in particleboard production. The recovered wood, including its biogenic carbon, leaves the system in module C3. Burdens and credits are accounted for in module D, either through combustion emissions or through substitution of primary raw materials.

Installation in the building (A5)

Description	Value	Unit
Materials from on-site waste treatment	1,17	kg

End of life (C1-C4)

Description	Value	Unit
Waste type collected separately	475,1	kg
For recycling	475,1 (in D/2)	kg
For energy recovery	475,1 (in D/1)	kg

5. LCA: Results

SYSTEM BOUNDARIES (X = INCLUDED IN THE 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 boundary
Raw material supply	Transport	Manufacturing	Transport from manufacturer to place of use	Installation	Use / Application	Maintenance	Repair	Replacement	Refurbishment	Operational building energy use	Operational building water use	Deconstruction	Transport	Waste processing	Disposal	Re-use, recovery or recycling potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
X	X	X	MND	X	MND	MND	MNR	MNR	MNR	MND	MND	X	X	X	X	X

LCA RESULTS - ENVIRONMENTAL IMPACTS under EN 15804+A2: 1 m³ (one cubic metre)

Indicator	Unit	A1	A2	A3	A5	C1	C2	C3	C4	D
GWP-total	kg CO2-eq.	-1,66E+03	8,14E+01	1,22E+03	1,26E+00	3,24E+00	1,24E+00	7,1E+02	0	-2,58E+01
GWP-fossil	kg CO2-eq.	1,35E+02	8,14E+01	1,3E+02	1,26E+00	3,23E+00	1,24E+00	3,45E+00	0	-2,55E+01
GWP-biogenic	kg CO2-eq.	-1,79E+03	2,62E-02	1,09E+03	5,13E-05	5,99E-03	3,99E-04	7,06E+02	0	-1,18E-01
GWP-luluc	kg CO2-eq.	1,21E+00	3,16E-02	2,1E-02	-3,37E-05	1,02E-03	4,81E-04	7,8E-03	0	-1,6E-01
ODP	kg CFC11-eq.	1,84E-05	1,91E-05	6,52E-06	8,1E-09	5,7E-07	2,89E-07	1,75E-07	0	-3,58E-06
AP	mol H+-eq.	9,28E-01	4,46E-01	3,92E-01	4,04E-04	1,33E-02	6,99E-03	1,85E-02	0	-1,94E-01
EP-freshwater	kg P-eq.	5,35E-02	5,5E-03	4,35E-02	4,85E-06	4,55E-04	8,38E-05	3,28E-03	0	-1,24E-02
EP-marine	kg N-eq.	2,72E-01	1,59E-01	1,22E-01	2,23E-04	6,11E-03	2,53E-03	3,33E-03	0	-6,45E-02
EP-terrestrial	mol N-eq.	3E+00	1,74E+00	1,3E+00	1,94E-03	4,18E-02	2,77E-02	2,99E-02	0	-6,86E-01
POCP	kg NMVOC-eq.	9,53E-01	4,95E-01	4,01E-01	4,51E-04	1,24E-02	7,8E-03	8,16E-03	0	-2,08E-01
ADPE	kg Sb-eq.	1,14E-03	2,57E-04	-8,28E-04	2,84E-07	2,26E-05	3,99E-06	9,83E-06	0	-1,56E-04
ADPF	MJ	2,41E+03	1,24E+03	1,97E+03	1,88E-01	4,35E+01	1,87E+01	5,23E+01	0	-4,31E+02
WDP	m3 world eq. deprived	1,17E+02	5,91E+00	4,88E+01	4,62E-02	2,19E+00	9,03E-02	2,68E+00	0	-2,52E+01

GWP = Global warming potential; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential of soil and water; EP = Eutrophication potential; POCP = Formation potential of tropospheric ozone; ADPE = Abiotic resource depletion potential - non-fossil resources (ADP - elements); ADPF = Abiotic resource depletion potential - fossil fuels (ADP - fossil resources); WDP = Water deprivation potential (user)

LCA RESULTS - INDICATORS DESCRIBING RESOURCE USE under EN 15804+A2:
1 m³ (one cubic metre)

Indicator	Unit	A1	A2	A3	A5	C1	C2	C3	C4	D
PERE	MJ	1,08E+02	1,36E+01	1,62E+01	1,01E+01	1,75E+00	2,08E-01	1,05E+01	0	-3,19E+01
PERM	MJ	8,07E+03	0	1E+01	-1E+01	0	0	-8,07E+03	0	0
PERT	MJ	8,18E+03	1,36E+01	2,62E+01	1,26E-02	1,75E+00	2,08E-01	-8,06E+03	0	-3,19E+01
PENRE	MJ	9,99E+02	1,25E+02	1,91E+03	2E+01	9,21E+00	1,9E+00	6,69E+02	0	-2,28E+02
PENRM	MJ	6,02E+02	0	1,98E+01	-1,98E+01	0	0	-6,02E+02	0	0
PENRT	MJ	1,6E+03	1,25E+02	1,93E+03	1,38E-01	9,21E+00	1,9E+00	6,73E+01	0	-2,28E+02
SM	kg	0	0	0	0	0	0	0	0	4,11E+02
RSF	MJ	4,44E+00	3,75E-01	1,3E+03	-8,15E-05	1,99E-02	5,74E-03	5,08E-01	0	-1,43E+00
NRSF	MJ	8,39E+00	1,41E+00	1,82E-01	-3,45E-05	3,4E-02	2,19E-02	3,35E-01	0	-1,35E+00
FW	m^3	2,81E+00	1,42E-01	1,15E+00	1,08E-03	7,24E-02	2,15E-03	6,52E-02	0	-5,99E-01

PERE = Renewable primary energy used as energy carrier; PERM = Renewable primary energy used as raw material; PERT = Total renewable primary energy; PENRE = Non-renewable primary energy used as energy carrier; PENRM = Non-renewable primary energy used as raw material; PENRT = Total non-renewable primary energy; SM = Use of secondary material; RSF = Renewable secondary fuels; NRSF = Non-renewable secondary fuels; FW = Net use of fresh water resources

LCA RESULTS - WASTE CATEGORIES AND OUTPUT FLOWS under EN 15804+A2:
1 m³ (one cubic metre)

Indicator	Unit	A1	A2	A3	A5	C1	C2	C3	C4	D
HWD	kg	4,23E+00	8,59E-01	1,09E+00	1,78E-02	5,44E-01	1,31E-02	1,22E-01	0	-6,16E-01
NHWD	kg	1,25E+01	1,02E+01	3,13E+00	1,12E+00	1,14E-01	1,5E-01	9,72E-01	0	-2,3E+00
RWD	kg	8,72E-03	8,36E-03	3,61E-03	3,9E-07	2,55E-04	1,27E-04	4,03E-04	0	-2,17E-03
CRU	kg	0	0	0	0	0	0	0	0	0
MFR	kg	8,23E+00	1,04E+00	1,52E+00	9,49E-05	5,35E-02	1,6E-02	4,76E+02	0	-2,49E+00
MER	kg	0	0	0	0	0	0	0	0	0
EEE	MJ	0	0	0	3E+00	0	0	0	0	0

EET	MJ	0	0	0	5,87E+00	0	0	0	0	0

HWD = Hazardous waste disposed of; NHWD = Non-hazardous waste disposed of; RWD = Radioactive waste disposed of; CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported electrical energy; EET = Exported thermal energy

LCA RESULTS - ADDITIONAL IMPACT CATEGORIES under EN 15804+A2 - optional:
1 m³ (one cubic metre)

Indicator	Unit	A1	A2	A3	A5	C1	C2	C3	C4	D
PM	Disease cases	2,79E-05	7,28E-06	1,68E-05	2,26E-09	2,29E-07	1,11E-07	6,96E-08	0	-6,23E-06
IR	kBq U235-eq.	1,99E+01	6,46E+00	1,13E+01	7,93E-04	2,35E-01	9,8E-02	1,88E+00	0	-6E+00
ETP-fw	CTUe	5,4E+01	4,57E+01	3,93E+01	-3,15E-03	6,74E-01	6,83E-01	2,65E-01	0	-1,51E+01
HTP-c	CTUh	1,68E-07	3,4E-08	8,17E-07	1,5E-10	1,33E-08	5,28E-10	2,13E-09	0	-1,01E-07
HTP-nc	CTUh	4,79E-06	1,64E-06	-4,84E-07	2,7E-08	6,12E-08	2,51E-08	1,93E-07	0	-1,01E-06
SQP	SQP	4,11E+02	1,38E+03	1,1E+02	3,31E-02	2,85E+00	2,04E+01	3,39E+00	0	-1,29E+02

PM = Potential incidence of disease due to particulate matter emissions; IR = Potential effect of human exposure to U235; ETP-fw = Potential comparative toxic unit for ecosystems; HTP-c = Potential comparative toxic unit for humans (carcinogenic effects); HTP-nc = Potential comparative toxic unit for humans (non-carcinogenic effects); SQP = Potential soil quality index

Product Category Rules for Construction Products, Part A (EN 15804+A2), Version 1. 38

Disclaimer 1 - applies to the indicator 'Potential effect of human exposure to U235'. This impact category mainly addresses the potential impact of low-dose ionising radiation on human health in the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure or disposal of radioactive waste in underground facilities. Potential ionising radiation from soil, radon and certain construction materials is also excluded from this indicator.

Disclaimer 2 - applies to the indicators: 'Abiotic resource depletion potential - non-fossil resources', 'Abiotic resource depletion potential - fossil fuels', 'Water deprivation potential (user)', 'Potential comparative toxic unit for ecosystems', 'Potential comparative toxic unit for humans - carcinogenic effects', 'Potential comparative toxic unit for humans - non-carcinogenic effects', and 'Potential soil quality index'.

The results for these environmental impact indicators must be used with care, as uncertainty is high or experience with the indicators is limited.

This EPD was generated using a software tool.

6. LCA: Interpretation

In almost all modules, environmental impacts are mainly determined by raw material supply (module A1). Exceptions are EP-freshwater, GWP-biogenic and GWP-total. GWP-biogenic reflects the uptake of atmospheric CO2 as trees grow and its storage as biogenic carbon in the wood in module A1 (logs, semi-finished wood products), and the outflow of that same carbon as recovered wood in module C3. This also affects GWP-total. Overall, the processing steps over the life cycle result in a positive net global warming potential of 328 kg CO2 eq. For EP-freshwater, manufacturing stage A3 dominates the impacts at 66.5%, mainly due to electricity consumption.
Module A2 contributes between 23 and 37% to GWP-fossil, ODP, ADPE and ADPF. Transport of semi-finished products accounts for 93-96% of these impacts in module A2.
Raw material supply dominates GWP-fossil at just under 40%. Within this, adhesive supply accounts for just under 49%, followed by semi-finished products at 38% and log supply at 13%. In addition to A1, module A3 contributes substantially (33%) to GWP-fossil. In A3, this is mainly due to the German electricity mix consumed and, to a lesser extent, heat generation from heating oil and internal transport.
The material recycling scenario yields savings in all environmental impact categories. Energy recovery leads to additional burdens for AP, EP-marine, EP-terrestrial and POCP, due to combustion of the recovered wood.

Data quality for modelling the vita solid wood panel can be rated as very good. Consistent datasets for the raw and auxiliary materials used are available in the background database. The effect of the cut-off criteria on LCA results is considered very small.

7. Supporting Evidence

7.1 Formaldehyde

The tested product meets the formaldehyde emission requirements of RAL-UZ 76.
Test report no.: 2516164/1/A1
Testing body: EPH Chemical Testing Laboratory

Equilibrium concentrations according to the test report

Description	Value	Unit
Day 3	13	µg/m³
Day 7	12	µg/m³

7.2 MDI

No MDI is used.

7.3 Toxicity of combustion gases

The toxicity of combustion gases released when sawn timber burns is equivalent to that of combustion gases from untreated wood.

7.4 VOC emissions

The tested product meets the VOC emission requirements of RAL-UZ 76.
Test report no.: 2516164/1/A1

Testing body: EPH Chemical Testing Laboratory

AgBB results overview (28 days [µg/m³])

Description	Value	Unit
AgBB results overview (7 days)	-	µg/m³
TVOC (C6 - C16)	147	µg/m³
Total SVOC (C16 - C22)	5	µg/m³
R (dimensionless)	0,271	-
VOC without LCI	5	µg/m³
Carcinogens	-	µg/m³

8. References

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Regulation (EU) No. 528/2012 of the European Parliament

and of the Council concerning the making available on the market and use of biocidal products.

Further reading

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DIN 68364
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EN 12664
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