

ENVIRONMENTAL PRODUCT DECLARATION

as per ISO 14025 and EN 15804+A2

Owner of the Declaration	HASSLACHER Holding GmbH
Publisher	Institut Bauen und Umwelt e.V. (IBU)
Programme holder	Institut Bauen und Umwelt e.V. (IBU)
Declaration number	EPD-HAS-20260506-IBC1-EN
Issue date	11.08.2026
Valid to	10.08.2031

Glued laminated timber, glued solid timber, block glued glulam and special components according to EN 14080
HASSLACHER Holding GmbH

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



1. General Information**HASSLACHER Holding GmbH****Programme holder**

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

Declaration number

EPD-HAS-20260506-IBC1-EN

This declaration is based on the product category rules:

Solid wood products, 01.08.2021
(PCR checked and approved by the SVR)

Issue date

11.08.2026

Valid to

10.08.2031



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



Dr. Martina Bender
(Managing Director Institut Bauen und Umwelt e.V.)

Glued laminated timber, glued solid timber, block glued glulam and special components according to EN 14080**Owner of the declaration**

HASSLACHER Holding GmbH
Feistritz 1
9751 Sachsenburg
Austria

Declared product / declared unit

1 m³ glued laminated timber with an average density of 480 kg/m³
(Moisture at delivery = 12 %)

Scope:

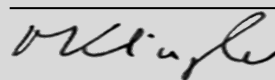
This document refers to average HASSLACHER glued laminated timber, glued solid timber, block glued glulam and special components manufactured by NORITEC Holzindustrie GmbH in Sachsenburg (Austria).

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



Matthias Klingler,
(Independent verifier)

2. Product

2.1 Product description/Product definition

Glued laminated timber (the term also includes glued solid timber, block glued glulam and special components throughout this document) from HASSLACHER Holding GmbH is a solid, rodshaped timber element consisting of at least two dried softwood lamellas bonded parallel to the fibres. The glued laminated timber is manufactured according to *EN 14080*.

A high degree of dimensional stability and load-bearing capacity is achieved through visual or mechanical strength grading of the board lamellas and homogenisation of the visual and physical material properties.

Glued laminated timber is usually made from spruce, fir, pine or larch. The standard strength classes are GL20h, GL24h, GL24c, GL28h, GL28c, GL30h, GL30c, GL32h, GL32c and GL36h as well as GL36c.

Glued laminated timber is available as standard or commissioned goods as well as in special dimensions and special constructions or in the form of special components.

Due to the existing joinery and surface finishing options integrated in the production plants, a high degree of prefabrication and thus a shortened construction time can be achieved.

Production is subject to in-house and external monitoring in accordance with *EN 14080*. For the placing on the market of the product in the European Union/European Free Trade Association (EU/EFTA) (with the exception of Switzerland) Regulation (EU) No. 305/2011 (CPR) of 09.03.2011 applies.

The product needs a declaration of performance taking into consideration *EN 14080*, *Timber structures – glued laminated timber and glued solid timber – Requirements* and the CE-marking.

For the application and use the respective national provisions apply.

2.2 Application

Glued laminated timber is used in all structural areas of modern timber construction, i.e. from engineering-based residential and industrial construction to bridge building. Glued laminated timber, with the exception of glued solid timber (only service classes 1 and 2), can be used in service classes 1 to 3 according to *EN 1995-1-1*.

The use of preventive chemical wood preservation according to *DIN 68800-3* is unusual and only permissible if structural wood preservation according to *DIN 68800-2* is not sufficient on its own. If, in exceptional cases, a preventive chemical wood preservative is used, this must be regulated by a general building authority approval or approval according to the Biocidal Products Regulation.

2.3 Technical Data

Structural data for glued laminated timber according to *EN 14080* are given.

Structural data

Name	Value	Unit
Wood species according to EN 1912 and letter codes, if any, in accordance with EN 13556 *1	PCAB (Norway spruce) ABAL (Silver fir) PNSY (Scots pine) LADC (Euroop. larch) PSMN (Douglas fir)	
Mean humidity acc. to EN 13183-1 *2	12 ± 2.5	%
Use of wood preservatives (the test rating of the wood preservative acc. to DIN 68800-3 must be stated) *3	Iv, P und W	-
Characteristic value of compressive strength parallel to grain acc. to EN 14080 *4	18.5 - 36	N/mm ²
Characteristic value of compressive strength perpendicular to grain acc. to EN 14080 *4	2.5	N/mm ²
Characteristic value of tensile strength parallel to grain acc. to EN 14080 *4	15 – 28.8	N/mm ²
Characteristic value of tensile strength perpendicular to grain acc. to EN 14080 *4	0.5	N/mm ²
Mean value of modulus of elasticity parallel to grain acc. to EN 14080 *4	10400 - 15750	N/mm ²
Characteristic value of shear strength acc. to EN 14080 *4	3.5	N/mm ²
Mean value of shear modulus acc. to EN 14080 *4	650	N/mm ²
Dimensional deviations acc. to EN 14080	width: +/- 2 mm; heights (< 400 mm): + 4 mm /- 2 mm heights (> 400 mm): 1 % /- 0.5 %; lengths (< 2 m): +/- 2 mm; lengths (> 2 m /< 20 m): +/- 0,1 %; lengths (> 20 m): +/- 20 mm	mm oder %
Average raw density of load-bearing elements acc. to EN 14080 *4	480	kg/m ³
Surface quality	Visual quality, industrial visual quality	-
Thermal conductivity (perpendicular to grain) acc. to ISO 10456	0.12	W/(mK)
Spezifische Wärmekapazität nach ISO 10456	1600	J/(kgK)
Water vapour diffusion resistance factor acc. to ISO 10456 *5	μ = 50 (dry) bis 20 (wet)	-

From **wood** to **wonders**.

*1) For glued laminated timber of predominantly softwood.

*2) *EN 14080* allows for different equivalent measurement methods.

*3) According to *DIN 68800-1*, wood preservative treatment is only permissible if structural measures have been exhausted and is therefore unusual.

*4) According to *EN 14080*, more elastomechanical properties, in particular bending strengths, can be declared. It is common to state strength classes such as GL24h, GL28h or GL36h. The ranges given here refer to average or characteristic values of the strength classes mentioned. The declared density values may deviate from these average values due to different densities of the wood species used.

*5) The water vapour diffusion equivalent air layer thickness is determined from the product of the layer thickness with the water vapour diffusion resistance number.

Performance data of the product in accordance with the declaration of performance with respect to its essential characteristics according to *EN 14080, Timber structures glued laminated timber and glued solid timber – Requirements* (not part of CE marking).

2.4 Delivery status

Glued laminated timber is produced and supplied in the following dimensions:

Min. height: 80 mm

Max. height: 4000 mm

Min. width: 80 mm

Max. width: 1200 mm (can be extended for custom parts)

Max. length: 27 m (42 m for custom parts)

2.5 Base materials/Ancillary materials

Glued laminated timber is made from fibre-parallel, technically dried planks or squared timber made of softwood bonded after having been visually or mechanically strength-graded. Melamine-urea-formaldehyde adhesives (MUF) are used for the generally thermoset bonding.

The release of formaldehyde is declared according to *EN 14080*.

The averaged proportions of ingredients per m³ of glued laminated timber for the environmental product declaration are:

- Softwood, predominantly spruce, approx. 88.5–89.5 %
- Water approx. 9–10 %
- MUF adhesives approx. 1.5 %

The product has an average density of 480 kg/m³ (average across all strength classes and wood species).

This product/article/at least one partial article contains substances listed in the *ECHA candidate list* (04.02.2026) exceeding 0.1 percentage by mass: no.

This product/article/at least one partial article contains other CMR substances in categories 1A or 1B which are not on the *candidate list*, exceeding 0.1 percentage by mass: no.

Biocide products were added to this construction product or it has been treated with biocide products (this then concerns a treated product as defined by the (EU) Ordinance on Biocide Products No. 528/2012): no.

2.6 Manufacture

For the production of glued laminated timber, conventional sawn timber is first dried to below 15 % wood moisture (target moisture content: approx. 12 ± 2.5 %), pre-planed and graded visually, but mainly by machine, according to strength. Board sections with strength-reducing or visually inappropriate areas

are cut out depending on the required or desired strength classes or quality demands and the resulting boards are joined by finger-joints to form endless lamellas. In the subsequent preplaning process, the board lamellas are planed to the desired final thickness of ≥ 6 to ≤ 45 mm (from > 45 to ≤ 85 mm in the case of glued solid timber), in order to be able to be bonded after the adhesive has been applied to the broadside.

After the adhesive has been applied to the broadside, they are pressed in a straight or curved press bed to form at least two-layer glulam blanks. After curing, the blank is planed, chamfered, tied and packed. If required, a treatment with surface finishes (end-grain protection, UV protection, glazes, assembly and hydrophobic protection, etc.) can be carried out before packaging.

2.7 Environment and health during manufacturing

Accruing exhaust air is purified in accordance with legal requirements. No pollution of water and soil takes place. The resulting waste water is fed into the local sewage system.

2.8 Product processing/Installation

Glued laminated timber can be processed with suitable tools commonly used in solid timber processing. On request, the products can also be processed in the factory and provided with fasteners or (glued-in) steel parts.

Occupational safety instructions must also be observed during processing/assembly.

2.9 Packaging

Polyethylene, solid timber, paper and cardboard as well as small amounts of other plastics are used.

2.10 Condition of use

The composition for the period of use corresponds to the basic material composition according to section 2.5 "Base materials/Ancillary materials".

During use, 212.3 kg of carbon are bound within the product. This corresponds to about 779 kg CO₂ in the case of complete oxidation.

2.11 Environment and health during use

Environmental protection:

According to the current state of knowledge, hazards to water, air and soil cannot arise if the products are used as intended.

Health protection:

According to the current state of knowledge, no health hazards or impairments are to be expected.

With regard to formaldehyde, glued laminated timber is low in emissions due to its low adhesive content, its structure and its form of use (formaldehyde emission class E1).

Glued laminated timber bonded using MUF adhesives subsequently releases formaldehyde; with regard to the limit value of ≤ 0.080 mg HCHO/m³ air of formaldehyde emission class E1, the measured test values of < 0.01 ppm HCHO/m³ air can be categorised as low and are at the detectability limit of state-of-the-art measurement methods. MUF adhesives themselves do not contain MDI.

2.12 Reference service life

Glued laminated timber has been used for over 100 years. When used as intended, no end to its durability is known or to be expected. The service life of glued laminated timber is therefore the same as the service life of the building when used as intended.

2.13 Extraordinary effects

Fire

Fire performance acc. to EN 13501-1

- Fire classification D – normal flammable
- Smoke class s2 – normal smoke production
- Flaming droplets d0 – no dripping
- The toxicity of the fire gases corresponds to that of natural wood.

Fire resistance

The burn rate of glued laminated timber is:

- 0.70 mm/min when used as girder or support,
- 0.65 mm/min when used as ceiling.
- $d_0 = 7 \text{ mm}$, $d_0 \dots$ Zero-Strenght-Layer

Water

No ingredients are washed out that may be hazardous to water.

Mechanical destruction

Solid wood lamellas are used for the production of glued laminated timber. The break pattern of glued laminated timber therefore also has an appearance typical of solid wood.

2.14 Re-use phase

In the case of selective deconstruction, glued laminated timber can be re-used or re-utilised without any problems after the end of the utilisation phase in the sense of cascading utilisation ("re-use") due to its monolithic layout.

If it is not possible to re-use or re-utilise glued laminated timber, it can be thermally recycled to generate process heat and electricity due to its high calorific value of approx. 19 MJ/kg.

2.15 Disposal

It is impermissible to dispose of waste wood via landfills.

Waste classification: Classification code 17218 (Wood waste, organically treated) according to the Waste Catalogue in accordance with Annex 5 of the Austrian Waste Catalogue Ordinance; Waste Code according to the European Waste Catalogue (EWC): 17 02 01.

2.16 Further information

You can find further information at www.hasslacher.com.

3. LCA: Calculation rules

3.1 Declared Unit

This environmental product declaration refers to a declared unit of 1 m³ HASSLACHER glued laminated timber with an average density of 480 kg/m³ and wood moisture at delivery of 12 %.

Declared unit

Name	Value	Unit
Declared unit	1	m ³
Gross density	480	kg/m ³
Wood moisture bei Auslieferung	12	%
Conversion factor [mass/declared unit]	480	-

The declared unit was calculated on a volume-weighted basis. This EPD refers to an average product produced at the HASSLACHER Group site in Sachsenburg (Austria) and is valid for 100 % of the quantities produced. The production conditions are uniform for all products under consideration.

Possible variability is also to be expected due to the use of different types of wood. The upstream chain for spruce wood is taken as representative here. The robustness of the declared LCA values can therefore be classified as good.

3.2 System boundary

The life cycle assessment of HASSLACHER glued laminated timber refers to a cradle-to-gate analysis of the environmental impacts with modules C1–C4 and module D (A1–A3, +C, +D). The following life cycle phases are taken into consideration in the analysis:

Module A1–A3 | Production stage

The production stage includes the upstream burdens of raw material supply (sawn timber, production of the adhesive system etc.) and their transports to the production site in Sachsenburg. Sorting, planing, finger jointing, pressing, and joining, including product packaging, are taken into account. The site uses 100 % green electricity (emission factor GWP-total: 0.03 kg CO₂ equivalent/kWh). Thermal energy is provided from the energetic use of wooden residues from the production process.

Module C1 | Dismantling/demolition

After the removal of building components overlying the product, the joints can simply be loosened by screwing or sawing and lifted by cranes to the place of removal. Required energy demand can be neglected. The actual energy demand depends on the installation of the products and can therefore vary greatly in the building context.

Module C2 | Transport to waste treatment

Module C2 includes transport to waste treatment. In this case, transport by truck over a distance of 50 km is used as a representative scenario.

Module C3 | Waste treatment

In Module C3, the chipping after removal of the products is considered. The wooden products and with them the material-inherent properties leave the product system as secondary fuel in module C3.

Module C4 | Disposal

The applied scenario declares the energetic recovery of the wooden products; therefore, no environmental impacts are to be expected from waste processing of the products in C4.

Module D | Benefits and loads beyond the system boundary

Applying an European average scenario, module D describes the energetic recovery of the product at the end-of-life including the corresponding energy substitution potentials.

3.3 Estimates and assumptions

Assumptions and approximations are applied in case of a lack of representative data. All assumptions and approximations are documented precisely and represent a best-guess representation of reality.

A large part of the wood processed by HASSLACHER represents softwood. The data set used to map the forestry chain refers to spruce wood and thus represents an approximation for all other types of wood.

Emissions from wood drying were included in the calculations according to *Rüter & Diederichs, 2012*.

3.4 Cut-off criteria

The LCA model covers all available input and output flows, which can be represented based on robust data and from which a significant contribution can be expected. Data gaps are filled with conservative assumptions of average data or generic data if available and are documented accordingly. Only data with a contribution of less than 1 % were cut off. Thus, no data were neglected, of which a substantial impact is to be expected. All relevant data were collected comprehensively. Cut-off material and energy flows were chosen carefully based on their expected quantitative contribution as well as potential environmental impacts. Thus, it can be assumed that the sum of all neglected input flows does not account for more than 5 % of the total material, water and energy flows.

3.5 Background data

Secondary data is used to represent the background system in the LCA model. Data is collected with the *MLC 2025.2* background database in *LCA FE*-software version 10 as well as recognized literature sources such as *Rüter & Diederichs, 2012*.

3.6 Data quality

Data collection is based on industry-specific questionnaires. It follows an iterative process clarifying questions via email, telephone calls or in personal and online meetings, respectively. Intensive discussions between HASSLACHER and Daxner & Merl result in an accurate mapping of product-related material and energy flows. This leads to a high quality of foreground data collected. Data collection relies on a consistent process according to *ISO 14044*.

The technological, geographical, and time-related representativeness of the database was kept in mind when selecting background data. Whenever specific data were missing, either generic datasets or representative average data were used instead. The implemented *MLC*-background

datasets refer to the latest versions available and are carefully chosen. The assessment of the representativeness of the average can be found in section 3.1.

3.7 Period under review

Foreground data were collected in the 2025 production year, and the data are based on the volumes produced on an annual basis.

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: Europe

3.9 Allocation

Carbon content and primary energy content of the products were assessed based on their material-inherent properties according to underlying physical relationships. The allocation in the upstream supply chain of wooden products is based on the publication by *Hasch 2002* and its update by *Rüter & Albrecht 2007*.

During the production co-products such as off-cuts, chips, cross-cutting and planing losses are produced in addition to the declared product. Co-products are allocated based on their market price in accordance with the recommendations of *EN 16485*.

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.

The *MLC 2025.2* background database in *LCA FE*-software version 10 was used to calculate the life cycle 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 on the biogenic carbon content at the gate

Name	Value	Unit
Biogenic carbon content in product	212	kg C
Biogenic carbon content in accompanying packaging	0.007	kg C
Biogenic carbon dioxide content in product	779	kg CO ₂

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

Assembly (A5)

The end of the product packaging's life cycle is not declared in Module A5.

Name	Value	Unit
Packaging (polyethylene)	1.7	kg
Packaging (polyethylenterephthalate)	0.13	kg
Packaging (polypropylene)	0.05	kg
Packaging kraftliner)	0.004	kg
Packaging (wooden pallet)	0.01	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	480	kg

Reuse, recovery, and recycling potential (D), relevant scenario information

Name	Value	Unit
Processing rate	100	%
Efficiency of the plant	68	%

The product reaches the end of its waste status after removal from the building, transport to processing and chipping of the product. For the end-of-life of the HASSLACHER solid wood products, energy recovery as secondary fuel in a biomass power plant is assumed.

As the main sales market for HASSLACHER products is concentrated in the European region, plant-specific characteristic values correspond to a European average scenario.

From **wood** to **wonders**.

The scenario considers a reprocessing rate of 100 % for the solid wood products after removal from the building. This assumption has to be adjusted accordingly when applying the

results in the building context. At the end-of-life of the product, the equilibrium moisture is comparable to the moisture content at delivery. This value can vary depending on the storage of the product before energy recovery.

5. LCA: Results

The following table contains the life cycle assessment results (Environmental impact assessment in accordance with EF 3.1) for a declared unit of 1 m³ HASSLACHER glued laminated timber with an average density of 480 kg/m³ (approx. 12 % moisture content), produced at the site in Sachsenburg (Austria).

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 m³ HASSLACHER glued laminated timber (480 kg/m³)

Parameter	Unit	A1-A3	C1	C2	C3	C4	D
Global Warming Potential total (GWP-total)	kg CO ₂ eq	-6.94E+02	0	1.87E+00	7.82E+02	0	-3.86E+02
Global Warming Potential fossil fuels (GWP-fossil)	kg CO ₂ eq	8.13E+01	0	1.84E+00	3.03E+00	0	-3.83E+02
Global Warming Potential biogenic (GWP-biogenic)	kg CO ₂ eq	-7.76E+02	0	9.36E-03	7.79E+02	0	-2.25E+00
Global Warming Potential luluc (GWP-luluc)	kg CO ₂ eq	9.51E-01	0	1.94E-02	1E-02	0	-6.31E-01
Depletion potential of the stratospheric ozone layer (ODP)	kg CFC11 eq	4.66E-07	0	3.12E-13	6.91E-11	0	-4.32E-09
Acidification potential of land and water (AP)	mol H ⁺ eq	6.96E-01	0	6.73E-03	6.65E-03	0	3.93E-01
Eutrophication potential aquatic freshwater (EP-freshwater)	kg P eq	1.18E-03	0	5.08E-06	6.49E-06	0	-4.14E-04
Eutrophication potential aquatic marine (EP-marine)	kg N eq	2.6E-01	0	3.2E-03	1.59E-03	0	8.05E-02
Eutrophication potential terrestrial (EP-terrestrial)	mol N eq	2.95E+00	0	3.46E-02	1.79E-02	0	8.72E-01
Formation potential of tropospheric ozone photochemical oxidants (POCP)	kg NMVOC eq	8.75E-01	0	6.16E-03	3.96E-03	0	3.45E-01
Abiotic depletion potential for non fossil resources (ADPE)	kg Sb eq	1.12E-04	0	1.25E-07	6.3E-07	0	-4.36E-05
Abiotic depletion potential for fossil resources (ADPF)	MJ	1.24E+03	0	2.41E+01	6.19E+01	0	-6.93E+03
Water use (WDP)	m ³ world eq deprived	4.37E+00	0	8.61E-03	7.6E-01	0	-2.23E+01

RESULTS OF THE LCA - INDICATORS TO DESCRIBE RESOURCE USE according to EN 15804+A2: 1 m³ HASSLACHER glued laminated timber (480 kg/m³)

Parameter	Unit	A1-A3	C1	C2	C3	C4	D
Renewable primary energy as energy carrier (PERE)	MJ	2.1E+03	0	1.82E+00	4.23E+01	0	-2.65E+03
Renewable primary energy resources as material utilization (PERM)	MJ	7.86E+03	0	0	-7.86E+03	0	0
Total use of renewable primary energy resources (PERT)	MJ	9.96E+03	0	1.82E+00	-7.82E+03	0	-2.65E+03
Non renewable primary energy as energy carrier (PENRE)	MJ	1.24E+03	0	2.41E+01	6.19E+01	0	-6.93E+03
Non renewable primary energy as material utilization (PENRM)	MJ	1.6E+02	0	0	-8.16E+01	0	0
Total use of non renewable primary energy resources (PENRT)	MJ	1.4E+03	0	2.41E+01	-1.97E+01	0	-6.93E+03
Use of secondary material (SM)	kg	3.98E-03	0	0	0	0	0
Use of renewable secondary fuels (RSF)	MJ	0	0	0	0	0	7.86E+03
Use of non renewable secondary fuels (NRSF)	MJ	0	0	0	0	0	8.16E+01
Use of net fresh water (FW)	m ³	8.65E-01	0	8.99E-04	3.28E-02	0	-1.47E+00

RESULTS OF THE LCA – WASTE CATEGORIES AND OUTPUT FLOWS according to EN 15804+A2: 1 m³ HASSLACHER glued laminated timber (480 kg/m³)

Parameter	Unit	A1-A3	C1	C2	C3	C4	D
Hazardous waste disposed (HWD)	kg	4.83E-01	0	9.68E-10	8.08E-08	0	-5.11E-06
Non hazardous waste disposed (NHWD)	kg	4.39E+00	0	3.37E-03	4.79E-02	0	1.79E-01
Radioactive waste disposed (RWD)	kg	2.29E-02	0	4.55E-05	9.76E-03	0	-6.11E-01
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	4.8E+02	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 m³ HASSLACHER glued laminated timber (480 kg/m³)

Parameter	Unit	A1-A3	C1	C2	C3	C4	D
Incidence of disease due to PM emissions (PM)	Disease incidence	ND	ND	ND	ND	ND	ND
Human exposure efficiency relative to U235 (IR)	kBq U235 eq	ND	ND	ND	ND	ND	ND
Comparative toxic unit for ecosystems (ETP-fw)	CTUe	ND	ND	ND	ND	ND	ND
Comparative toxic unit for humans (carcinogenic) (HTP-c)	CTUh	ND	ND	ND	ND	ND	ND
Comparative toxic unit for humans (noncarcinogenic) (HTP-nc)	CTUh	ND	ND	ND	ND	ND	ND
Soil quality index (SQP)	SQP	ND	ND	ND	ND	ND	ND

The additional and optional impact categories according to *EN 15804+A2* are not declared, as the uncertainty of these indicators is to be classified as high.

Disclaimer – for the indicators 'abiotic depletion potential for non-fossil resources', 'abiotic depletion potential for fossil resources', 'water (user) deprivation potential, deprivation-weighted water consumption', 'potential comparative toxic unit for ecosystems', 'potential comparative toxic unit for humans – cancerogenic', 'Potential comparative toxic unit for humans - not cancerogenic', 'potential soil quality index'.

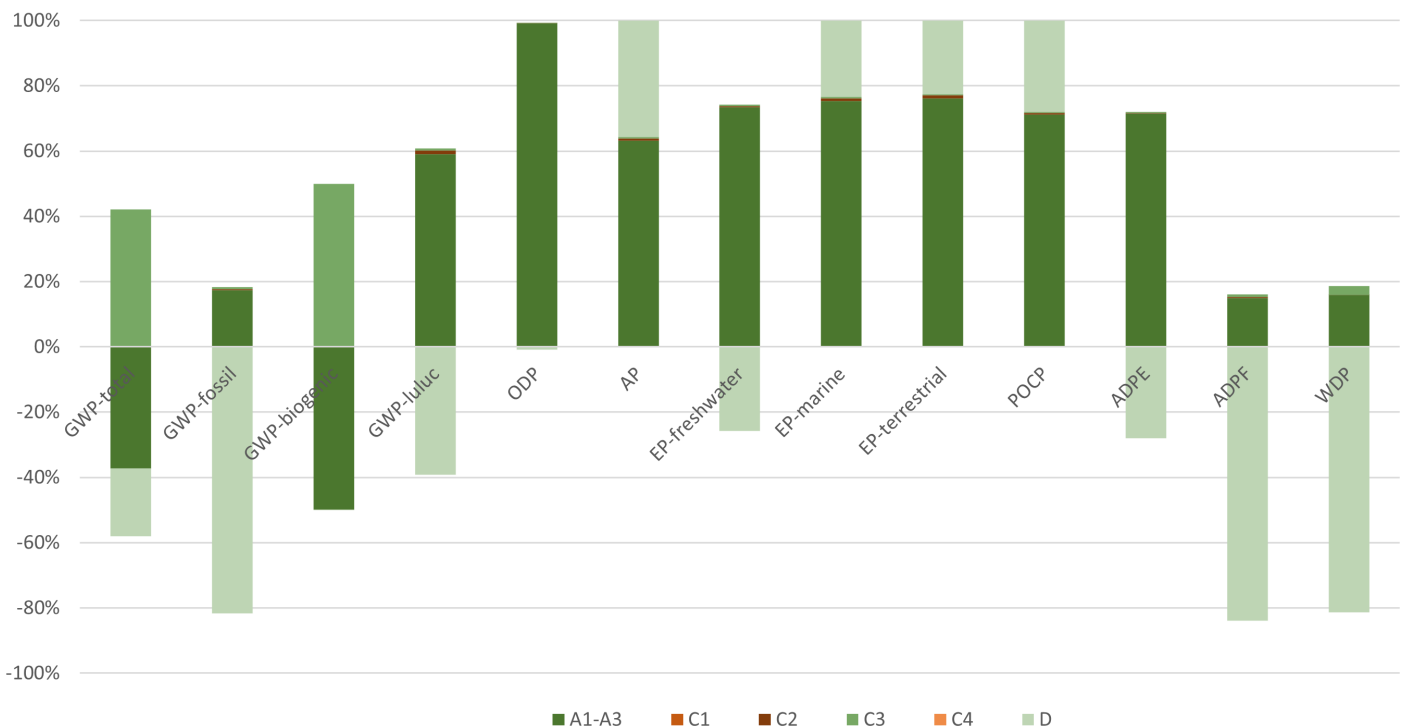
The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high as there is limited experience with the indicator.

6. LCA: Interpretation

The following interpretation contains a summary of the LCA results referenced to a declared unit of 1 m³ of average

HASSLACHER glued laminated timber, produced at the site in Sachsenburg (Austria).

Hot-spot analysis of Hasslacher glued laminated timber



Global warming potential (GWP) shows a negative value in the production phase (modules A1– A3) of the glued laminated timber products. This is due to the material use of wood in the production and the sequestration of biogenic carbon in wood. Trees use carbon dioxide from the atmosphere in order to grow and thus bind carbon in their biomass (negative GWP). During the energetic treatment in a combined heat and power plant at the end-of-life (module C3) the bound biogenic carbon is released to the atmosphere as carbon dioxide and thus contributes to potential global warming.

The negative values in module D can be explained by the fact that the energy generated by the energetic utilization of the product can replace the combustion of fossil energy sources. Thus, more emissions of (mainly fossil) energy sources are avoided than are emitted by using the energy stored in the wood. Environmental burdens (AP, EP, POCP) in module D are

mainly caused by emissions from the combustion of biomass.

The interpretation of the results identifies the impacts from the upstream supply chain of sawn timber as the main driver in the environmental profile of glued laminated timber. The environmental impacts from forestry play an important role. Besides the timber supply chain the resin production is a substantial contributor. Due to the use of green electricity in production, the provision of electricity at the site represents a minor contribution factor (except for the elementary use of resources).

The results shown are representative of HASSLACHER glued laminated timber, glued solid timber, block glued glulam and special components according to *EN 14080*. They refer to an annual average of the total production volume at the Sachsenburg site, including all available dimensions (width,

From **wood** to **wonders**.

height, length) and strength classes. The average takes the annual amount of wood and adhesives used for all variants of HASSLACHER glued laminated timber into account. The production conditions are uniform for all products considered.

Due to this and the homogeneous structure of the products, the results are expected to be representative for all products. It is not possible to assign the annual input and output flows to specific products.

7. Requisite evidence

7.1 Formaldehyde

Testing entity

Holzforschung Austria – Österreichische Gesellschaft für Holzforschung

Place of test

Franz-Grill-Straße 7, A-1030 Wien

Test report and test periodTest report no. 20783/2026/1 - KW
Test period from February to April 2026

Test method and result

Measurement of the emissions of a sample with respect to VOC, formaldehyde and shortchain carbonyl compounds according to EN 16516.

Test result

See tables regarding results overview in 7.4.

7.2 MDI

When bonding HASSLACHER glued laminated timber, two component melamine-urea-formaldehyde adhesives are used that do not contain MDI. MDI emissions from the cured glued laminated timber are therefore not possible.

7.3 Toxicity of fire gases

The toxicity of the fire gases produced by burning glued laminated timber corresponds to those produced by burning untreated wood.

7.4 VOC-emissions

Testing entity

Holzforschung Austria – Österreichische Gesellschaft für Holzforschung

Place of test

Franz-Grill-Straße 7, A-1030 Wien

Test report and test period

Test report no. 20783/2026/1 - KW
Test period from February to April 2026

Test method and result

Measurement of the emissions of a sample with respect to VOC, formaldehyde and shortchain carbonyl compounds according to EN 16516.

Results overview (28 days [µg/m³])

Name	Value	Unit
TVOC (C6 - C16) (substance spec.)	271	µg/m³
TVOC (Toluene equiv.)	194	µg/m³
R (dimensionless)	0.26	-
Formaldehyde	7	µg/m³

Results overview (3 days [µg/m³])

Name	Value	Unit
TVOC (C6 - C16) (substance spec.)	264	µg/m³
TVOC (Toluene equiv.)	267	µg/m³
Formaldehyde	15	µg/m³

8. References

Standards

DIN 68800-1

DIN 68800-1:2019-06, Wood preservation – Part 1: General.

DIN 68800-2

DIN 68800-2:2022-02, Wood preservation – Part 2: Preventive constructional measures in buildings.

DIN 68800-3

DIN 68800-3:2020-03, Wood preservation – Part 3: Preventive protection of wood with wood preservatives.

EN 717-1

ÖNORM EN 717-1:2005-02-01, Wood based panels – Determination of formaldehyde release – Part 1: Formaldehyde emission by the chamber method.

EN 1912

ÖNORM EN 1912:2024-07-01, Structural timber – Strength classes – Assignment of visual grades and species.

EN 13183-1

ÖNORM EN 13183-1:2004-02-01, Moisture content of a piece of sawn timber – Part 1: Determination by oven dry method.

EN 13501-1

ÖNORM EN 13501-1:2020-01-15, Fire classification of construction products and building elements – Part 1: Classification using data from reaction to fire tests.

EN 13556

ÖNORM EN 13556:2003-09-01, Round and sawn timber – Nomenclature of timbers used in Europe.

EN 14080

ÖNORM EN 14080:2013-08-01, Timber structures – glued laminated timber and glued solid timber – Requirements.

EN 15804

ÖNORM EN 15804:2022-02-15, Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products.

EN 16485

ÖNORM EN 16485:2014-05-01, Round and sawn timber – Environmental Product Declarations – Product category rules for wood and woodbased products for use in construction.

EN 16516

ÖNORM EN 16516:2021-01-15, Construction products: Assessment of release of dangerous substances – Determination of emissions into indoor air.

EN 1995-1-1

ÖNORM EN 1995-1-1:2019-06-01, Eurocode 5: Design of timber structures – Part 11: General – Common rules and rules for buildings.

ISO 10456

ÖNORM EN ISO 10456:2010-02-15, Building materials and products – Hygrothermal properties – Tabulated design values and procedures for determining declared and design thermal values.

ISO 14025

ÖNORM EN ISO 14025:2010-07-01, Environmental labels and declarations – Type III environmental declarations – Principles and procedures.

ISO 14044

ÖNORM EN ISO 14044:2021-03-01, Environmental management – Life cycle assessment – Requirements and guidelines.

Further References**AgBB**

German Committee for Health Related Evaluation of Building Products (AgBB): Approach to health assessment of emissions of volatile organic compounds (VOCs and SVOCs) from building products.

Biocidal Products Regulation

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

CPR

Regulation (EU) No. 305/2011 of the European Parliament and the Council of 9 March 2011 laying down harmonised conditions for the marketing of the construction products and on repealing Directive 89/106/EEC of the Council.

EWC

EWC European Waste Catalogue – EWC, Ordinance on the European Waste Catalogue (Waste Catalogue Ordinance) Waste Catalogue Ordinance of 10 December 2001 (BGBl. I S. 3379), last amended by Article 5 para. 22 of the law dated 24. February 2012 (BGBl. I S. 212).

ECHA Candidate List

List of substances of very high concern considered for approval (status 04.02.2026) according to Article 59 para. 10 of the REACH Regulation. European Chemicals Agency.

Hasch 2002, Rüter & Albrecht 2007

Ökologische Betrachtung von Holzspan und Holzfaserplatten, Diss., University of Hamburg, amended in 2007: Rüter, S. (BFH HAMBURG; Timber Technology), Albrecht, S. (University of Stuttgart, GaBi).

Holz Forschung Austria

Holz Forschung Austria, VOC Emissions Test Report according EN 16516 (16.04.2026), Number: 20783/2026/1 - KW.

IBU 2021

Institut Bauen und Umwelt e.V.: General Guidelines for the EPD Program of the Institute für Bauen und Umwelt (IBU). Version 2.0, Berlin: Institut für Bauen und Umwelt, 2021. www.ibu-epd.com

LCA FE

LCA FE 10, LCA for Experts Software System and Database for Life Cycle Engineering. Version 10.7.1.28. Sphera, 1992-2025.

MLC

MLC 2025.1, Database for Life Cycle Engineering implemented in LCA for Experts software system. DB 2025.1. Sphera, 1992-2025. Available at: <https://lcadatabase.sphera.com/>

PCR part A

Product category rules for building related products and services. Part A. Calculation Rules for the Life Cycle Assessment and Requirements on the Project Report according EN 15804+A2:2019. Version 1.4. Berlin: Institut Bauen und Umwelt e.V. (Hrsg.), 2024.

PCR: Solid wood products

Product category rules for building related products and services. Part B: EPD requirements for solid wood products. Berlin: Institut Bauen und Umwelt e.V., 01.08.2021.

Rüter & Diederichs 2012

Ökobilanz-Basisdaten für Bauprodukte aus Holz. Arbeitsbericht aus dem Institut für Holztechnologie und Holzbiologie Nr. 2012/1. Hamburg: Johann Heinrich von Thünen-Institut.

Waste Catalogue Ordinance

Waste Catalogue according to Annex 5 of the Austrian Waste Catalogue Ordinance. Order of the Federal Minister for Sustainability and Tourism on a Waste Catalogue (Waste Catalogue Ordinance 2020).



Publisher

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

+49 (0)30 3087748- 0
info@ibu-epd.com
www.ibu-epd.com



Programme holder

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

+49 (0)30 3087748- 0
info@ibu-epd.com
www.ibu-epd.com



Author of the Life Cycle Assessment

Daxner & Merl GmbH
Schleifmühlgasse 13/24
1040 Wien
Austria

+43 676 849477826
office@daxner-merl.com
www.daxner-merl.com



From **wood** to **wonders**.

Owner of the Declaration

HASSLACHER Holding GmbH
Feistritz 1
9751 Sachsenburg
Austria

0043 4769 22 49 0
info@hasslacher.com
www.hasslacher.com