

ENVIRONMENTAL PRODUCT DECLARATION

acc. to ISO 14025 and EN 15804+A2

Declaration owner	GUTEX Holzfaserplattenwerk H. Henselmann GmbH + Co KG
Publisher	Institut Bauen und Umwelt e.V. (IBU)
Programme operator	Institut Bauen und Umwelt e.V. (IBU)
Declaration number	EPD-GTX-20250702-IBC1-DE
Issue date	17/03/2026
Date of expiry	16/03/2031

Wood fibre insulation boards

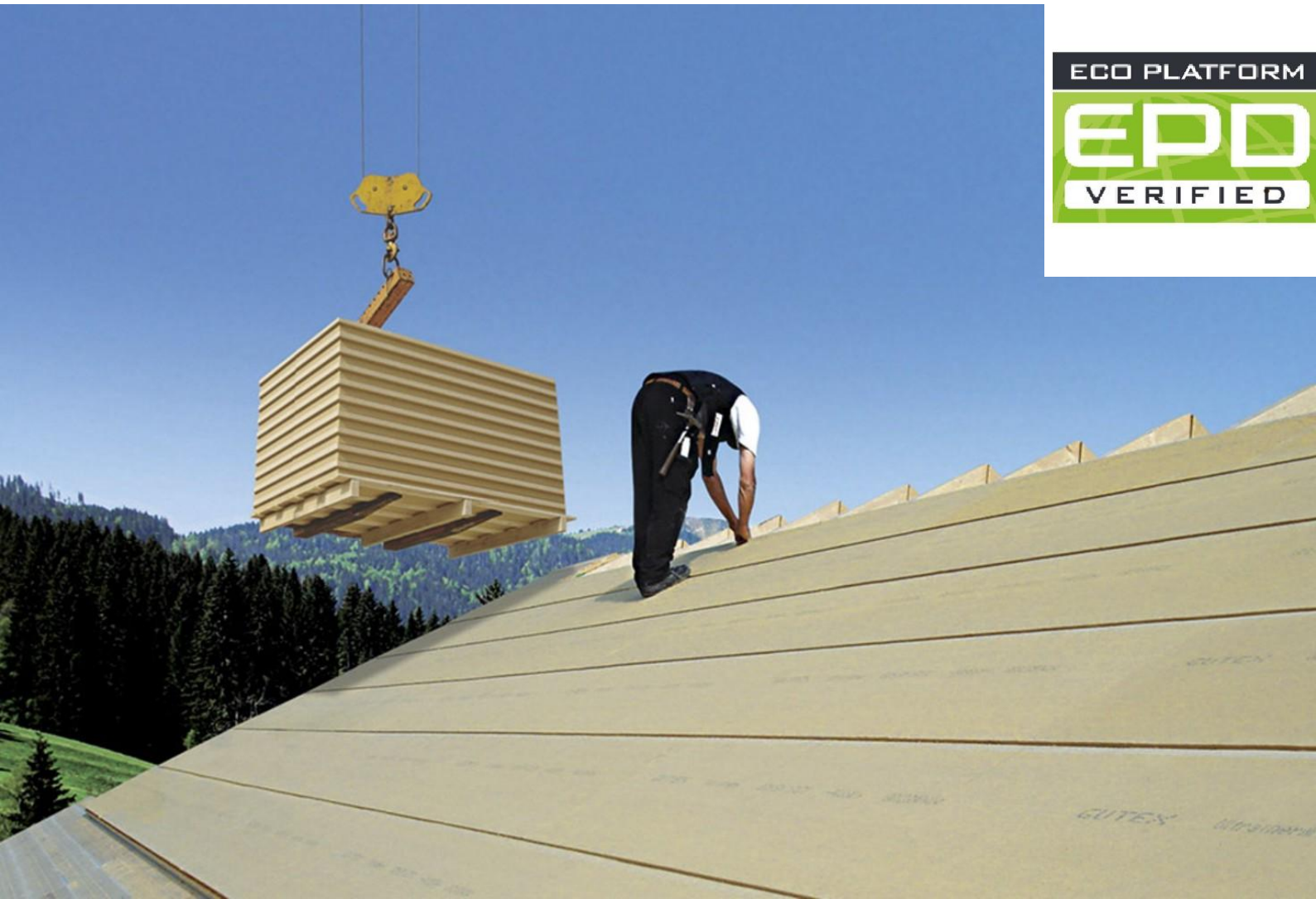
GUTEX Holzfaserplattenwerk H. Henselmann GmbH + Co KG

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1. General information

GUTEX Holzfaserplattenwerk H. Henselmann GmbH + Co KG

Programme operator

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

Declaration number

EPD-GTX-20250702-IBC1-DE

This declaration is based on the following product category rules:

Wood-based materials, 01/08/2021
(PCR tested and approved by the Independent Board of Experts (SVR))

Issue date

~~17/03/2026~~

Date of expiry

16/03/2031



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



Florian Pronold
(Managing director of the Institut Bauen und Umwelt e.V.)

Wood fibre insulation boards

Declaration owner

GUTEX Holzfaserplattenwerk H. Henselmann GmbH + Co KG
Gutenberg 5
D-79761 Waldshut-Tiengen
Germany

Declared product/Declared unit

This declaration applies to 1 m³ of wood fibre insulation board manufactured using the dry process, with a weighted average density of 169 kg/m³. For all other densities, the results can be calculated using the formula shown in Chapter 5. The individual products covered by this EPD are listed in Chapter 2.1.

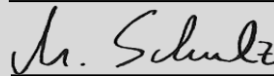
Scope:

This declaration applies to wood fibre insulation boards manufactured by GUTEX at its site in Waldshut-Tiengen using the dry process. The declaration owner is liable for the underlying data and supporting documents; the IBU shall not be held liable under any circumstances with regard to the manufacturer's information, life cycle assessment data, and supporting documents.

This EPD was drawn up as prescribed in EN 15804+A2. The standard will be referred to as *EN 15804* from here on for simplicity.

Verification

The European standard EN 15804 serves as the core PCR
Independent verification of the declaration and information as per ISO 14025:2011
<input type="checkbox"/> internal <input checked="" type="checkbox"/> external



Matthias Schulz,
(Independent Verifier)

2. Product

2.1 Product description/Product definition

GUTEX wood fibre boards are a board-type insulation material manufactured from wood fibres according to *EN 13171*. In the dry process, insulation boards are manufactured from wood fibres with the addition of small quantities of polyurethane (PUR) resin; after production, these are cut to size, profiled as necessary, and finished. Hydrophobic and non-hydrophobic single-layer insulation boards up to 240 mm thick can be produced.

This is an average EPD for the following products: GUTEX

Thermosafe homogen/-nf

GUTEX Thermosafe wd

GUTEX Ultratherm

GUTEX Thermowall/-nf

GUTEX Thermowall-gf

GUTEX Multiplex top

GUTEX Multitherm

GUTEX Thermofloor

GUTEX Thermowall 5in1

GUTEX Thermoinstal

GUTEX Thermoroom

GUTEX Thermowall L

GUTEX Dämmplatte

(Insulation Board) DW

GUTEX Dämmplatte

(Insulation Board) DW+

GUTEX Dämmplatte

(Insulation Board) DWM

GUTEX Omnitherm

GUTEX Thermoflat

GUTEX Prefatop

Regulation (EU) No 305/2011(*CPR*) covers the placing of the product on the market in the EU/EFTA (except Switzerland).

The product requires a declaration of performance in accordance with the harmonised product standard *EN 13171:2015-04*, Thermal insulation products for buildings – Factory made wood fibre (WF) products and the CE label.

Additional application standards:

- *DIN 4108-4:2020-11*, Thermal insulation and energy economy in buildings
- *DIN 4108-10:2021-11*, Thermal insulation and energy economy in buildings
- *DIN EN 622-4:2024-05*, Fibre boards
- *SIA Information Sheet 2001:2015* Thermally-insulating construction products
- *Certificate of ACERMI* Association pour la certification des matériaux isolants
- *ÖNORM B 6000:2018-08-01* Factory made materials for thermal and/or acoustic insulation in building construction

2.2 Application

GUTEX insulation materials can be used in both new and existing buildings: as a composite thermal insulation system for rendered façades, wall insulation for rear-ventilated façades, roof insulation or underlay, insulation of floor slabs, internal insulation of external walls, insulation of service ducts, and impact sound insulation for floors.

2.3 Technical data

The following structural/technical data in as-delivered condition are relevant for GUTEX wood fibre boards:

Constructional data

Name	Value	Unit
Density acc. to EN 13171	110 - 250	kg/m ³
Moisture content upon delivery	8	%
Right-angled tensile strength acc. to EN 13171	5 - 30	N/mm ²
Thermal conductivity nominal value according to EN 13171	0.037 - 0.047	W/(mK)
Water vapour diffusion resistance level according to EN 13171	4	-
Reaction to fire according to DIN EN 13501-1	E	
Specific thermal capacity	2100	J/(kgK)
Compressive stress at 10% compression according to EN 13171	40-200	kPa

Product performance values in accordance with the declaration of performance regarding its essential characteristics, in accordance with *EN 13171:2015-04* Thermal insulation products for buildings – Factory made wood fibre (WF) products.

Voluntary information relating to the product is not part of the CE marking.

2.4 Delivery status

GUTEX insulation boards are delivered in thicknesses between 20 mm and 240 mm.

Product-specific dimensions can be found at www.gutex.de.

2.5 Base materials/Auxiliary materials

The product components are given in mass % in the table below.

Name	Value	Unit
Conifer wood fir/spruce	approx. 94.5	%
PUR resin	max. 4	%
Paraffin	max. 1.5	%

The answer to the following questions regarding the declared product is **no**:

The product contains substances according to the *ECHA List* of Candidate Substance of Very High Concern (SVCHC) for authorisation (dated 21/01/2025) above 0.1 mass %: **no**.

The product contains other CMR substances of the category 1A or 1B are not included in the *Candidate List* above 0.1 mass %: **no**.

The construction product in question has biocides added or was treated with biocidal products (making it a treated good in the meaning of the Biocidal Products Regulation (EU) No. 528/2012): **no**.

2.6 Manufacture

The manufacturing process can be broken down into the following process steps:

1. Delivery of the wood chips
2. Defibration of the wood chips using the defibrator method
3. Hydrophobisation of the fibres with paraffin
4. Drying of the fibres in the flash dryer
5. Application of PUR resin on the fibres

6. Spreading the fibres onto the moulding belt to form a mat. The weight per thickness is determined by the amount of material spread across the forming belt.
7. Curing of the mat in the calibration and curing unit
8. Cutting, profiling and finishing.

The plant is certified to *ISO 9001*.

2.7 Environment and health during production

Health protection during production:

Given the production conditions, no measures regarding the protection of employees' health are required beyond those stipulated by law. The levels are below the legal limits.

Environmental protection during production:

Exhaust air: Emissions are below the provisions of the environmental permit.

Waste water: No waste water is produced during the production process. **Noise emissions:** Due to noise control measures, the measured values are below the maximum permissible levels specified in the environmental permit.

The plant is certified to *ISO 14001* and *EMAS*.

2.8 Product processing/Installation

GUTEX wood fibre boards can be processed using woodworking machines such as standard circular saws and jigsaws.

Environment and health:

When working with wood fibre boards, the regulations of the employers' liability insurance association must be observed. The processing or installation of wood fibre boards does not cause any environmental impact. No special measures need to be taken to protect the environment.

2.9 Packaging

Wooden pallets (returnable system) are used. Cardboard, PE strapping, and PE stretch film are used for packaging and can be recycled.

2.10 Condition of use

The proportions of the ingredients correspond to those of the base composition as specified in section 2.5.

2.11 Environment and health during use

In normal conditions of use, in line with the intended purpose of GUTEX wood fibre boards, no damage or adverse effects on the environment or health are expected. The ingredients of the insulation boards are not included in the Candidate List in Annex IV of the *REACH* Regulation.

The boards emit no harmful substances that could pose a health risk.

2.12 Reference service life

When used as intended, the service life of GUTEX insulation boards is at least as long as that of the building.

Due to the wide range of possible applications, no reference service life is specified.

A service life of 40 years is specified for wood fibre insulation boards according to the *BNB 2025 Sustainable Building Assessment System*.

Description of the influences on ageing when used in accordance with the recognised technical rules.

2.13 Extraordinary effects – Fire

All insulation boards listed comply with Euroclass E in accordance with *DIN EN 13501-1*. When burned, they produce the same combustion gases as fir and/or spruce wood.

No flaming droplets, low smoke emission because wood fibre insulation boards.

Fire protection

Name	Value
Fire classification	E

Water

When used as intended, no substances that could be harmful to water are leached out.

If the board is exposed to the elements for a short period, the wood component lignin may be leached out.

Mechanical destruction

If subjected to excessive mechanical stress (compression and tension), GUTEX insulation boards may be damaged. This results in uneven fracturing or damage. Even in the event of accidental destruction, there is no harm to the environment.

2.14 Reuse phase

GUTEX wood fibre boards can be easily separated and reused for the same purpose during renovation work or at the end of a building's service life in the event of selective demolition, as long as they remain untreated and undamaged.

GUTEX wood fibre boards can be disposed of, provided they have not been contaminated.

2.15 Disposal

Due to its high calorific value (approx. 18 MJ/kg), it is recommended that this material be used for energy recovery to generate process energy and electricity in biomass power stations.

It is also possible to mechanically defibrate the sorted, deconstructed boards and feed them back into the manufacturing process.

Waste wood category A2; waste code numbers according to *AVV*: 170201 or 030105.

2.16 Additional information

Additional information can be found at 'www.gutex.de'.

3. LCA: Calculation rules

3.1 Declared unit

The underlying unit is 1 m³ of wood fibre insulation board with an average density of 169 kg/m³, weighted by production volume (m³/year).

Declared unit

Name	Value	Unit
Bulk density	169	kg/m ³
Declared unit	1	m ³
Conversion factor	169	-

The formulations of the products under consideration vary within narrow limits. For example, the relevant wood content ranges from 94.5% and 96.0%.

The manufacturing process is identical for all products. The declaration for an average product can therefore be regarded as representative of the various product variants. It is important to scale the figures to the relevant density, as shown in Chapter 5.

Emission factor:

Hydroelectric power --> 0.0085 kg CO₂ eq./kWh
Power from CHP (natural gas) --> 0.469 kg CO₂ eq./kWh

3.2 System boundary

Type of EPD: Cradle-to-gate with options, modules C1–C4 and module D (A1–A3 + C + D and additional module: A5). The life cycle assessment includes the following life cycle modules:

The **product stage (A1–A3)** covers:

A1: Raw material procurement and processing; e.g. production of wood, PUR and wax

A2: Transport of raw materials to the plant (source area: Germany)

A3: Production process for the wood fibre insulation boards (all inputs and outputs relevant to the production process accounted for, such as auxiliary materials, packaging materials, energy, internal transport, waste treatment, emissions, etc)

The **construction installation stage (A5)** comprises: A5: treatment and disposal of the packaging material. Any encumbrances and credits for potential avoided impacts through energy substitution of electricity and heat generation are declared in module D and solely relate to the proportion of primary materials used (no secondary materials). The study assumes manual installation. The associated environmental impacts are negligible.

The **disposal stage (C1–C4)** covers:

C1: Manual dismantling

C2: Transport to the processing plant: 50 km by truck

C3: In module C3, the boards are removed from the product system as a secondary fuel.

The boards are sold as a secondary fuel prior to utilisation; a utilisation rate of 100% is assumed, with no losses due to the shredding of the material.

C4: Irrelevant

Credits and encumbrances outside the system boundaries (D) covers:

D: Incineration of the product outside the product system, including energy recovery. This takes into account the resulting potential benefits from substituting the environmental effects of generating thermal energy from natural gas and electricity based on the German electricity mix from 2021. Module D also includes energy benefits from the utilisation of production waste and packaging

3.3 Estimates and assumptions

Thermal utilisation is assumed for the end-of-life phase, with a 100% recovery rate for the boards. No further approximations or estimates of data sets are required for the purposes of this study. Background data sets for all base materials are available in the *LCA FE* database.

3.4 Cut-off criteria

All data obtained via the operational data collection – i.e. all raw materials used according to the formulation, the thermal energy used, internal fuel consumption and electricity consumption, all direct production waste, and all available emission measurements – is included in the life cycle assessment. Moreover, data on transport costs is collected and assessed for all inputs considered. This means that material and energy flows accounting for less than 1% are also accounted for, thus meeting the cut-off criteria in accordance with *PCR Part A* of the *IBU PCR* guidelines. It can be assumed that the sum of the neglected processes does not exceed 5% of the impact categories. The inclusion of biogenic elements relevant to the impact categories, e.g. carbon in the form of CO₂, is accounted for this life cycle assessment.

3.5 Background data

All background data used is taken from the software's databases. The data was last revised in 2025. The consistent data sets contained in the *LCA FE (GaBi) database* are documented in the *online LCA FE (GaBi) documentation*.

3.6 Data quality

The *LCA FE (GaBi)* background data used was last updated in 2025. The relevant background data is no more than 10 years old. The quality and representativeness of the *LCA FE (GaBi)* data and the data collected by GUTEX can be considered to be high.

3.7 Period under review

The data used relates to the production processes at the GUTEX wood fibre board plant in Waldshut-Tiengen during the 2023 financial year. The life cycle assessment was compiled for the supply area of Germany.

3.8 Geographic representativeness

Land or region where the declared product is manufactured, used (if applicable), and treated at the end of its life cycle: Germany

3.9 Allocation

Plant data from the insulation plant (production energy, raw materials, additives and auxiliary materials, waste, etc) that could not be unambiguously attributed to specific products on the basis of processes or via a formulation was allocated according to mass.

Unlike in 2020, there is no longer a loop for energy from the combustion of production waste within A1-A3. Resulting credits are reported in module D, as required by *PCR A*.

3.10 Comparability

Comparing or assessing EPD data is generally only possible if all datasets to be compared were generated as prescribed in *EN 15804* and the building context and/or product-specific performance characteristics are accounted for. The background data was taken from *LCA FE (GaBi) 2025.1*.

4. LCA: Scenarios and other technical information

Characteristic product properties biogenic carbon

Information describing the biogenic carbon content at the factory gate

Name	Value	Unit
Biogenic carbon contained in product	73.9	kg C
Biogenic carbon contained in the packaging	3.24	kg C

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

The following technical information is the basis for the declared modules or can be used for the development of specific scenarios in the context of a building assessment if no modules are declared (MND).

Installation in building A5

The module covers the disposal of packaging materials (7.38 kg wooden pallet, 0.49 kg cardboard, and 0.42 kg PE film and straps). It is assumed that these materials will be sent for thermal recovery.

End of life (C1–C4) De-construction

demolition(C1)

manual dismantling (no encumbrances)

Transport EoL treatment (C2)

Transport to waste treatment: 50 km by truck

Thermal utilisation (C3)

When disposing of the product, it is assumed that it will be used as a secondary fuel. Biogenic CO₂ emissions are declared in C3. Material for energy recovery: 169 kg.

The assessed scenario assumes a recycling rate of 100%. The carbon dioxide incorporated into the product is declared as an emission in accordance with *EN16485*.

Disposal (C4)

not relevant.

Reuse, recovery and recycling potential (D), relevant

scenario data Module D covers: recovery potential via thermal recycling of packaging and Gutex wood fibre insulation boards at the end of their life. It was assumed that a waste incineration plant would be used or that the material would be used as a secondary fuel with an R1 value > 0.6. This takes into account the emissions from the incineration of the panel in Module D

5. LCA: Results

The results of the life cycle assessment according to EN 15804, EF 3.1 for wood fibre insulation boards with an assessed density of 169 kg/m³ are summarised below.

SPECIFICATION OF THE SYSTEM BOUNDARIES (X = INCLUDED IN LIFE CYCLE ASSESSMENT; MND = MODULE OR INDICATOR NOT DECLARED; MNR = MODULE NOT RELEVANT)

Production stage			Building construction stage		Use stage							Disposal stage				Credits and burdens beyond the system boundaries
Raw material supply	Transport	Manufacture	Transport from manufacturer to site of utilisation	Installation	Use/Application	Maintenance	Repair	Replacement	Refurbishment	Building operational energy use	Building operational water use	De-construction/Demo	Transport	Waste processing	Disposal	Reuse, 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	MND	X

RESULTS OF THE LIFE CYCLE ASSESSMENT – ENVIRONMENTAL IMPACTS according to EN 15804+A2: 1 m³ wood fibre insulation board

Indicator	Unit	A1-A3	A5	C1	C2	C3	D
Global warming potential total (GWP-total)	kg CO ₂ eq.	-2.04E+02	1.32E+01	0	6.51E-01	2.69E+02	-1.68E+02
Global warming potential fossil (GWP-fossil)	kg CO ₂ eq.	7.58E+01	1.28E+00	0	6.31E-01	0	-1.68E+02
Global warming potential biogenic (GWP-biogenic)	kg CO ₂ eq.	-2.8E+02	1.19E+01	0	2.83E-03	2.69E+02	-1.41E-01
Global warming potential luluc (GWP-luluc)	kg CO ₂ eq.	3.1E-01	2.39E-04	0	1.64E-02	0	-8.28E-02
Stratospheric ozone depletion potential (ODP)	kg CFC11 eq.	2.62E-10	2.32E-12	0	1.23E-13	0	-2.65E-09
Soil and water acidification potential (AP)	mol H+ eq.	2.24E-01	2.42E-03	0	7.41E-04	0	8.07E-02
Freshwater eutrophication potential (EP-freshwater)	kg P eq.	3.73E-04	3.18E-07	0	1.2E-06	0	-2.85E-04
Marine eutrophication potential (EP-marine)	kg N eq.	8.6E-02	6.8E-04	0	2.71E-04	0	-7.92E-03
Terrestrial eutrophication potential (EP-terrestrial)	mol N eq.	9.54E-01	1.15E-02	0	3.03E-03	0	-8.54E-02
Tropospheric ozone formation potential (POCP)	kg NMVOC eq.	2.32E-01	1.79E-03	0	6.71E-04	0	3.8E-02
Potential for the abiotic depletion of non-fossil resources (ADPE)	kg Sb eq.	1.21E-05	2.21E-08	0	8.55E-08	0	-2.17E-05
Potential for the abiotic depletion of fossil fuels (ADPF)	MJ	1.42E+03	3.37E+00	0	8.23E+00	0	-2.43E+03
Water deprivation potential (WDP)	m ³ world eq. deprived	1.77E+00	1.32E+00	0	2.35E-03	0	6.93E+00

RESULTS OF THE LIFE CYCLE ASSESSMENT – INDICATORS TO DESCRIBE RESOURCE UTILISATION according to EN 15804+A2: 1 m³ wood fibre insulation board

Indicator	Unit	A1-A3	A5	C1	C2	C3	D
Renewable primary energy as energy carrier (PERE)	MJ	9.31E+02	1.19E+02	0	6.91E-01	2.66E+03	-1.17E+03
Renewable primary energy for material utilisation (PERM)	MJ	2.78E+03	-1.18E+02	0	0	-2.66E+03	0
Total renewable primary energy (PERT)	MJ	3.71E+03	1.03E+00	0	6.91E-01	0	-1.17E+03
Non-renewable primary energy as energy carrier (PENRE)	MJ	1.16E+03	2.14E+01	0	8.23E+00	2.47E+02	-2.43E+03
Non-renewable primary energy for material utilisation (PENRM)	MJ	2.65E+02	-1.81E+01	0	0	-2.47E+02	0
Total non-renewable primary energy (PENRT)	MJ	1.42E+03	3.37E+00	0	8.23E+00	0	-2.43E+03
Utilisation of secondary materials (SM)	kg	0	0	0	0	0	0
Renewable secondary fuels (RSF)	MJ	0	0	0	0	0	2.66E+03
Non-renewable secondary fuels (NRSF)	MJ	0	0	0	0	0	2.47E+02
Freshwater resources utilisation (FW)	m ³	4.06E-01	3.11E-02	0	4.98E-04	0	-1.98E-01

RESULTS OF THE LIFE CYCLE ASSESSMENT – WASTE CATEGORIES AND OUTPUT FLOWS according to EN 15804+A2: 1 m³ wood fibre insulation board

Indicator	Unit	A1-A3	A5	C1	C2	C3	D
Hazardous waste to disposal (HWD)	kg	3.69E-07	2.25E-09	0	3.9E-10	0	-2.54E-06
Disposed non-hazardous waste (NHWD)	kg	1.14E+00	2.04E-01	0	1.18E-03	0	-1.14E-01
Disposed radioactive waste (RWD)	kg	1.26E-02	1.03E-04	0	9.54E-06	0	-1.17E-01
Components for reuse (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	0	1.69E+02	0
Exported electric energy (EEE)	MJ	5.73E-01	1.57E+01	0	0	0	0
Exported thermal energy (EET)	MJ	7.22E+00	3.68E+01	0	0	0	0

RESULTS OF THE LIFE CYCLE ASSESSMENT – additional impact categories according to EN 15804+A2-optional: 1 m³ wood fibre insulation board

Indicator	Unit	A1-A3	A5	C1	C2	C3	D
Occurrence of diseases due to particle emissions	Cases of illness	5.96E-06	1.44E-08	0	6.38E-09	0	-2.23E-07

(PM)							
Effect through human exposure to U235 (IR)	kBq U235-eq.	1.34E+00	1.03E-02	0	9.15E-04	0	-1.18E+01
Toxicity reference unit for ecosystems (ETP-fw)	CTUe	4.63E+02	1.28E+00	0	9.4E+00	0	-3.68E+02
Toxicity reference unit for humans (carcinogenic) (HTP-c)	CTUh	2.33E-08	9.25E-11	0	1.34E-10	0	-3.78E-09
Toxicity reference unit for humans (non-carcinogenic) (HTP-nc)	CTUh	9.08E-07	2.29E-09	0	5.11E-09	0	9.09E-08
Soil quality index (SQP)	SQP	8.58E+03	1.05E+00	0	4.32E+00	0	-7.44E+02

As there is a linear relationship between the results of the life cycle assessment and the density of the wood fibre insulation boards, the following formula can be used to obtain data for other densities:

$$P(y) = [P(x)/x]*y$$

P(y): Life cycle assessment indicator for the wood fibre insulation board to be calculated

P(x): Indicator result for the declared wood fibre insulation board (e.g., Global Warming Potential (GWP))

x: Density of the declared wood fibre insulation board [kg/m³] (average: 169 kg/m³)

y: Density of the wood fibre insulation board to be recalculated [kg/m³] (e.g. 250 kg/m³)

Qualifier 1 – applies to indicator "potential effect through human exposure to U235".

This effect category mainly covers the possible effect of low-dose ionising radiation on human health in the nuclear fuel cycle. It does not take into account effects attributable to possible nuclear accidents and occupational exposure or the disposal of radioactive waste in underground facilities. This indicator also does not cover the potential ionising radiation emitted by the ground, radon, and certain construction materials.

Qualifier 2 – applies to the indicators: 'abiotic resource depletion potential – non-fossil resources', 'abiotic resource depletion potential – fossil fuels', 'water deprivation potential (user)', 'potential toxicity reference unit for ecosystems', 'potential toxicity reference unit for humans – carcinogenic effect', 'potential toxicity reference unit for humans – non-carcinogenic effect', and 'potential soil quality index'. Diligence must be applied when using the results of the environmental impact indicator because they are fraught with high uncertainties or experience with the indicator is limited.

6. LCA: Interpretation

The product stores a substantial amount of CO₂ during raw material extraction (modules A1-A3), meaning this phase has a negative global warming potential. Installation and packaging disposal (A5) only have a marginal impact, and preparation for use and other end-of-life phases (C1, C2, and C4) also have a minor impact.

The virtual release of biogenic CO₂ (C3) contributes the highest emissions. In C3, the product exits the product system as a secondary fuel. It is assumed that this secondary fuel will be incinerated in a biomass power plant in a downstream product system. The negative values in module D result from the energetic treatment of the product, which is burned in a biomass power plant.

The negative values in module D result from the energetic treatment of the product.

The energy generated in the biomass power plant can substitute (chiefly fossil) fuels, resulting in an environmental net benefit.

The main causes of environmental impacts are energy consumption and the use of TPU adhesive. Transport, packaging, and production waste have only a minor impact.

The environmental balance can be improved further through better energy efficiency, reduced or use of alternative adhesives, and optimised waste management strategies.

7. Supporting documents

7.1 Formaldehyde

The following assessment is representative for all declared products.

Measurement site: Bremer Umweltinstitut GmbH (independent and accredited analysis and research institute, Bremen, D) **Measurement report, dated:**

Measurement Report No: L9301 FM-1 of 30/01/2024, Thermowall **Conclusion:** Measurement of the formaldehyde content was performed in accordance with EN 717-1.

Formaldehyde's steady-state concentration is 0.009 mg/m³.

7.2 MDI

The following assessment is representative for all declared products.

Measurement site: Bremer Umweltinstitut GmbH (independent and accredited analysis and research institute, Bremen, D) **Measurement report, dated:**

Measurement Report No: M1285 FM-k of 21/01/2025, Thermowall **Conclusion:** MDI emissions are below the detection threshold.

7.3 Pre-treatment of raw materials

No old timber is used in the manufacture of GUTEX wood fibre insulation boards.

7.4 VOC emissions

The following measurement is representative for all declared products.

Measurement site: Bremer Umweltinstitut GmbH (independent and accredited analysis and research institute, Bremen, D)

Measurement report, dated:

Measurement Report No: M1285 FM-k of 21/01/2025, Thermowall

AgBB overview of results (28 days)

Name	Value	Unit
TVOC (C6 - C16)	39	µg/m ³
Sum SVOC (C16 - C22)	5	µg/m ³
R (dimensionless)	0.987	-
VOC without NIK	2	µg/m ³
Carcinogenic	*	µg/m ³

*= not detectable

7.5 Lindan/PCP

No additives containing pesticides are used in the manufacture of GUTEX wood fibre boards. The following assessment is representative for all declared products.

Measurement site: Bremer Umweltinstitut GmbH (independent and accredited analysis and research institute, Bremen, D)

Measurement report, date:

Measurement Report No: L9301 FM-1 of 30/01/2024, Thermowall

Conclusion: Measured values are below the threshold of quantification.

8. References

Standards

DIN EN 13501-1

DIN EN 13501-1:2018: Fire classification of construction products and building elements – Part 1: Classification using data from reaction to fire tests

DIN 4108-4

DIN 4108-4:2020-11, Thermal insulation and energy economy in buildings.

DIN 4108-10

DIN 4108-10:2021-11, Thermal insulation and energy economy in buildings.

EN 15804+A2

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

EN 622-4

DIN EN 622-4:2024-05, Fibre boards.

EN 16485

DIN EN 16485:2014-07, Round and sawn timber – Environmental Product Declarations – Product category rules for wood and wood-based products for use in construction.

EN 717-1

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

EN 13171

DIN EN 13171:2015-04, Thermal insulation products for buildings – Factory made wood fibre products – Specification.

ISO 14001

DIN ISO 14001:2015: Energy management systems – Requirements with guidance for use.

ISO 9001

DIN EN ISO 9001:2015, Quality management systems – Requirements.

ÖNORM B 6000

ÖNORM B 6000:2018-08-01 Factory made materials for thermal and/or acoustic insulation in building construction.

Additional references

PCR Part A

Calculation rules for the LCA and requirements of the project report according to EN 15804, version 1.4, Institut Bauen und Umwelt e.V., www.bau-umwelt.com, 2024

PCR: Wood-based materials

Requirements of the EPD for wood-based materials, version 11, Institut Bauen und Umwelt e.V., 2024

LCA FE (GaBi)

LCAFE dataset documentation for the software-system and databases, LBP, University of Stuttgart and Sphera Solutions, Leinfelden-Echterdingen, 2025 (<https://scn.sphasolutions.com/client/login.aspx>)

BNB 2025

BBSR table 'Nutzungsdauern von Bauteilen zur Lebenszyklusanalyse nach BNB', Bewertungssystem Nachhaltiges Bauen, Bundesinstitut für Bau-, Stadt- und Raumforschung, Referat II Nachhaltiges Bauen; online at <https://www.nachhaltigesbauen.de/de/baustoff-und-gebaeuedaten/nutzungsdauern-von-bauteilen.html> (as of 09/2025)

AVV

Ordinance on the European Waste Catalogue (Abfallverzeichnis-Verordnung-AVV)" of 10/10/2001.

EMAS

EMAS Regulation (EC) No 1221/2009 of 28 August 2017 on the voluntary participation by organisations in a Community eco-management and audit scheme.

Test Report No: K 6635 FM

Test Report No. 35541-001 'Laboratory Test for GUTEX' of 02/05/2018; Bremer Umweltinstitut GmbH, Bremen, D.

REACH Regulation

Regulation (EC) No 2020/71 of the European Parliament and the Council of 08 August 2025 concerning the registration, evaluation, authorisation and restriction of chemicals.

Test Report No.: K 9731 FM-K

Test Report No: 35541-001 'Laboratory Test for GUTEX' of 22/06/2020; Bremer Umweltinstitut GmbH, Bremen, D.

SIA Information Sheet

Thermal Insulation Materials. Current version SIA 2001:2015.

ACERMI

Association pour la certification des matériaux isolants, www.acermi.com

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