Environmental Product Declaration (EPD)
According to ISO 14025 and EN 15804+A2:2019

StoCleyer B



Registration number:	EPD-Kiwa-EE-239834-EN
Issue date:	19-09-2026
Valid until:	19-09-2031
Declaration owner:	Sto SE & Co. KGaA
Publisher:	Kiwa-Ecobility Experts
Programme operator:	Kiwa-Ecobility Experts
Status:	verified

1 General information

1.1 PRODUCT

StoCleyer B

1.2 REGISTRATION NUMBER

EPD-Kiwa-EE-239834-EN

1.3 VALIDITY

Issue date: 19-09-2026

Valid until: 19-09-2031

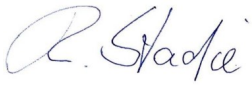
1.4 PROGRAMME OPERATOR

Kiwa-Ecobility Experts
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13355 Berlin
DE



Raoul Mancke

(Head of programme operations, Kiwa-Ecobility Experts)



Dr. Ronny Stadie

(Verification body, Kiwa-Ecobility Experts)

1.5 OWNER OF THE DECLARATION

Declaration owner: Sto SE & Co. KGaA

Address: Ehrenbachstraße 1, D-79780 Stühlingen, Germany

E-mail: infoservice@sto.com

Website: https://www.sto.com

Production location: Stomix

Address production location: Skorošice 197, 790 65 Skorošice, Czech Republic

1.6 VERIFICATION OF THE DECLARATION

The independent verification is in accordance with the ISO 14025:2011. The LCA is in compliance with ISO 14040:2006 and ISO 14044:2006. The EN 15804+A2:2019 serves as the core PCR.

☐ Internal ☒ External



Vijay Thakur, Vijay Thakur

1.7 STATEMENTS

The owner of this EPD shall be liable for the underlying information and evidence. The programme operator Kiwa-Ecobility Experts shall not be liable with respect to manufacturer data, life cycle assessment data and evidence.

1.8 PRODUCT CATEGORY RULES

Kiwa-EE GPI R.4.0 Kiwa-Ecobility Experts, General Programme Instructions “Product Level”, Program EE 1201 (18.12.2025)

Kiwa-EE GPI R.4.0 Annex B1 Kiwa-Ecobility Experts, General Programme Instructions “Product Level” – Annex B1 Environmental Information Programme according to EN 15804 / ISO 21930, Program EE 1203 (18.12.2025)

1.9 COMPARABILITY

In principle, a comparison or assessment of the environmental impacts of different products is only possible if they have been prepared in accordance with EN 15804+A2:2019. For the evaluation of the comparability, the following aspects have to be considered in particular: PCR used, functional or declared unit, geographical reference, the definition of

1 General information

the system boundary, declared modules, data selection (primary or secondary data, background database, data quality), scenarios used for use and disposal phases, and the life cycle inventory (data collection, calculation methods, allocations, validity period). PCRs and general program instructions of different EPD program operators may differ. Comparability needs to be evaluated. For further guidance, see EN 15804+A2:2019 and ISO 14025.

1.10 CALCULATION BASIS

LCA method R<THINK: Ecobility Experts | EN15804+A2

Characterization method: RETHINK characterization method (see references for more details)

LCA database profiles: ecoinvent (for version see references)

Version database: v3.20f (20260507)

1.11 LCA BACKGROUND REPORT

This EPD is generated on the basis of the LCA background report 'StoCleyer B ' with the calculation identifier ReTHiNK-139834.

2 Product

2.1 PRODUCT DESCRIPTION

StoCleyer B and StoEcoshape are facade claddings, optimized for external wall insulation systems, produced by Stomix. They can also be used on rainscreen cladding facades and solid substrates. The products differ only in size and appearance. The trade name StoCleyer B covers all types of brick formats, while StoEcoshape refers to large formats and designs with variable textures. For simplification purposes, both product variants are designated as StoCleyer B throughout the document.

The appearance is based on traditional hand-crafted bricks, with a weight less than a third of clay slips. There is a range of design options in regard to color shades, textures and formats. The material thickness varies between 3 to 8 mm.

Due to the high variability of formats, this EPD calculates 1 kg of StoCleyer B.
StoCleyer B consists of a polymer dispersion, flame retardant, mineral fillers and additives. The composition of raw materials is as stated in the following table.

Raw material	Weight (%)
EVA-binder	< 10
Flame retardant	< 30
Mineral filler	< 70
Additive	< 4

The UNCPC Code for the declared product is: 37370 Ceramic flags and paving, hearth or wall tiles; ceramic mosaic cubes and the like.

2.2 APPLICATION (INTENDED USE OF THE PRODUCT)

StoCleyer B is designed for use on all StoTherm systems and StoVentec R. It is also suitable for cladding all types of facade constructions such as solid walls and the like.

Application and grouting is carried out in one step using Sto Bonding and Pointing Mortar. StoCleyer B is applied and the mortar in the joint is then smoothed with a brush.

The substrate in general should be firm, dry and clean. StoCleyer B can be applied on both, mineral and organic substrates. Mineral substrates can be treated with a Primer.

2.3 REFERENCE SERVICE LIFE

RSL PRODUCT

The length of the service life highly depends on the installation quality. If installed correctly, the service life of StoCleyer B can reach the life span of the building. The Sustainable Building Assessment System BNB specifies the service life of a brick slip as at least 50 years (Code: 335.511.25)

The use phase is not declared in this EPD, therefore the reference service life according to ISO 15686 is not reported.

USED RSL (YR) IN THIS LCA CALCULATION:

50

2.4 TECHNICAL DATA

Additional information on the technical data can be found on the Technical Data Sheet.

Criteria	Standard	Value	Unit	Notes
Density	EN ISO 2811	1.3-1.5	g/cm³	
Diffusion-equivalent air layer thickness	EN ISO 7783	0.64-0.76	m	average value V2 medium
Water permeability rate w	EN 1062-3	< 0.1	kg/(m²h0.5)	W3 low
Reaction to fire	EN 13501-1	A2-s1, d0		

2.5 SUBSTANCES OF VERY HIGH CONCERN

The product does not contain substances of very high concern (SVHC) on the REACH Candidate List published by the European Chemicals Agency.

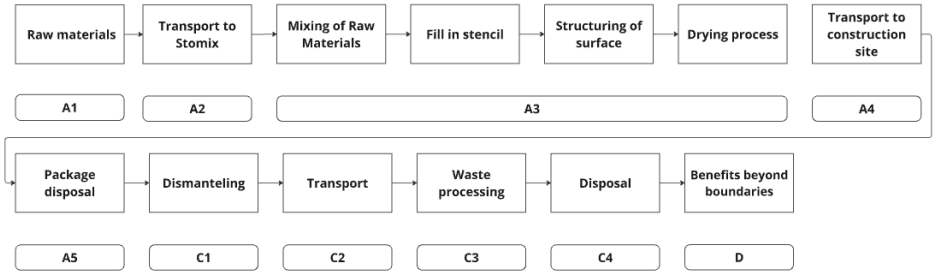
2.6 DESCRIPTION OF THE PRODUCTION PROCESS

Raw materials, packaging components, and production supplies are received at the warehouse. Quartz sands and fillers are transported via tanker truck and deposited into silos located in the courtyard. Binders, delivered by truck, are transferred into IBC containers. Additional raw materials and additives arrive in various forms.

2 Product

The production of StoCleyer B includes the following steps:

1. The raw materials are mixed.
2. Stencils are placed on the production line and filled with the mixture.
3. The surface is structured according to production order.
4. The product is removed from the stencil and placed into the drying rack where it is dried completely.
5. StoCleyer B is packaged and sent to the customer.



2.7 CONSTRUCTION DESCRIPTION

Sto-Bonding and Pointing Mortar is applied manually to the substrate. It forms the adhesive layer and joint for StoCleyer B. The application quantity is measured with a notched trowel and used completely. Only as much material is applied as can be covered within the open time of the adhesive. If the application is carried out correctly, no waste is generated. With a slightly sliding motion, StoCleyer B should be pressed firmly and full-faced into the freshly applied mortar. Gaps and cavities must be avoided. Then the joint areas are smoothed, using a flat paint brush. Specific information on application and other actions with this product are described in detail in the relevant technical product documentation.

Direct contact with the eyes and skin must be avoided through personal protective measures. The adhesive must not reach the sewer system, surface water, or ground water. The water used to clean the equipment should be collected in accordance with the appendices in the technical data sheets and disposed of via a suitable treatment plant. Excess material can be stored and used at the next construction site.

3 Calculation rules

3.1 DECLARED UNIT

kg (kilogram)

The declared unit is 1 kg of StoCleyer B. The scope of this LCA is cradle to gate with options A4 and A5, modules C1-C4 and module D.

Reference unit: kg

3.2 CONVERSION FACTORS

Description	Value	Unit
Reference unit	1	kg
Conversion factor to 1 kg	1.000000	kg

3.3 SCOPE OF DECLARATION AND SYSTEM BOUNDARIES

This is a Cradle-to-gate with options, modules C1-C4 and module D EPD. The life cycle stages included are as shown below:

(X = module included, ND = module not declared)

A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
X	X	X	X	X	ND	ND	ND	ND	ND	ND	ND	X	X	X	X	X

The modules of the EN 15804 contain the following:

Module A1 = Raw material supply	Module B5 = Refurbishment
Module A2 = Transport	Module B6 = Operational energy use
Module A3 = Manufacturing	Module B7 = Operational water use
Module A4 = Transport	Module C1 = Deconstruction / Demolition
Module A5 = Construction - Installation process	Module C2 = Transport
Module B1 = Use	Module C3 = Waste Processing
Module B2 = Maintenance	Module C4 = Disposal
Module B3 = Repair	Module D = Benefits and loads beyond the product system boundaries
Module B4 = Replacement	

3.4 REPRESENTATIVENESS

This EPD is representative of StoCleyer B, a product of Stomix. The results of this EPD are representative of Europe. The scenarios included in this life cycle analysis are currently in use and are representative of one likely scenario.

3.5 CUT-OFF CRITERIA

Product stage (A1-A3)
The production stage consists of the extraction of raw materials, transportation of the raw materials, processing the raw materials into materials and the production of the product. The required energy for production, ancillary materials, packaging materials and

3 Calculation rules

production emissions are included. All substantial raw materials and types of energy during production are included. Raw materials added to the product in very small amounts (less than 1%) are not included. These cut-off limits do not apply to hazardous materials or substances.

Construction process stage (A4-A5)
Module A4 accounts for the transportation of 1 kg StoCleyer B over 500 km. Module A5 accounts for the waste treatment of the product packaging and does not include product waste from the installation of StoCleyer B into the building. The product is generally applied manually, therefore no energy is required during the installation process

End of life stage (C1-C4)
All input flows (e.g. energy use for demolition or disassembly, transport to waste processing, etc.) and output flows (e.g. end-of-life waste processing of the product, etc.) are considered in this LCA. The total neglected input flows do therefore not exceed the limit of 5% of energy use and mass. The end-of-life scenario is declared as 100 % landfill as one likely conservative scenario.

Benefits and loads beyond the system boundary (Module D)
All benefits and loads beyond the system boundary resulting from reusable products, recyclable materials and/or useful energy carriers leaving the product system are considered in this LCA. The

Excluded processes

Following processes has not been taken into account in this life cycle analysis:

- The manufacture of equipment used in production, buildings or any other capital goods;
- The transportation of personnel to the production plant;
- The transportation of personnel within the production plant;
- Research and development activities;

3.6 ALLOCATION

No allocation takes place during production. This LCA complies with the principle of modularity. There are no co-products that have to be taken into account.

The producer of StoCleyer B is under regulation from national authorities and follows the polluter pays principle.

3.7 DATA COLLECTION & REFERENCE PERIOD

This EPD project has been performed in January and February 2026. The period of study is from January to December 2025.

3.8 ESTIMATES AND ASSUMPTIONS

Since StoCleyer B can be installed manually, no additional energy is required in Module A5.

No product waste is accounted for at the construction site. If a tile needs to be cut, the second half can be reused at another location. An assumption regarding construction losses can still be made if the declared environmental results from A1-A3, A4 and C and D are multiplied by a cut-off/breakage rate (Example: a 3% cut-off/breakage rate gives rise to a factor of 1.03 x environmental impact).

1% cut off criteria have been applied for formulation and production data when applicable according to EN 15804+A2.

A payload factor of 50 % was used for all truck transports, which in fact corresponds to a full delivery and empty return trip. A data set for a non-specific truck was used.

3.9 DATA QUALITY

Datasets from ecoinvent 3.9.1 (2022) have been used for calculation with R<think. The ecoinvent data complies with the requirements of EN 15804 (generic datasets not older than 10 years).

Table E.2 in Annex E from EN 15804+A2 has been used to assess the data quality of relevant data in the table below.

Quality requirement	Specific requirement	Data quality level	Notes
Time related coverage	Age of data and minimum time period for data collection.	The collected data is from the year 2025. The temporal representativeness is less than 3 years	very good

3 Calculation rules

Geographical coverage	Upstream: Unit process for raw material is collected for geographic region	Supplier data was collected and considered geographically in the model.	good
	Core: Unit process for production should represent the real site.	Specific data from the corresponding production site were used from the previous year.	very good
	Downstream: End-of-life disposal should represent the region of disposal	The end-of life-scenario is declared as a likely scenario for a bigger region (EU). Individual countries might deviate.	fair
Technical representativeness	Qualitative assessment of the degree to which the data set reflects the true population of interest (technology)	The specific data on the manufacture of the declared product are provided by the manufacturer. They were determined on the actual systems and processes used for production.	very good

No data of poor or very poor quality has been used for either time, geographical or technological representativeness.

The dataset for Flame retardant as well as the EVA-binder account for more than 30 % of the impact of several core indicators.

3.10 POWER MIX

Data has been collected at the production site in Skorošice. The energy used consists of a market mix for the Czech Republic (residual mix, market based approach) and covers the foreground process in Skorošice. The used electricity mix is calculated with an environmental impact of 0.758 kg CO2-eq/kWh.

4 Scenarios and additional technical information

4.1 TRANSPORT TO CONSTRUCTION SITE (A4)

For the transport from production place to assembly/user, the following scenario is assumed for module A4 of this EPD.

	Value and unit
Vehicle type used for transport	(ei3.9.1) Lorry (Truck) 16-32t, EURO6 | market for (EU)
Fuel type and consumption of vehicle	not available
Distance	500 km
Capacity utilisation (including empty returns)	50 % (loaded up and return empty)
Bulk density of transported products	inapplicable
Volume capacity utilisation factor	1

4.2 ASSEMBLY (A5)

The following information describes the scenarios for flows entering the system and flows leaving the system at module A5.

FLOWS ENTERING THE SYSTEM

There are no significant environment impacts as a result of materials or energy used in the construction stage (A5).

FLOWS LEAVING THE SYSTEM

The following output flows leaving the system at module A5 are assumed.

Description	Value	Unit
Output materials as result of loss during construction	0	%
Output materials as result of waste processing of materials used for installation/assembly at the building site	0.000	kg
Output materials as result of waste processing of used packaging	0.076	kg

4.3 DE-CONSTRUCTION, DEMOLITION (C1)

No inputs are needed for the product at the de-construction / demolition phase

4.4 TRANSPORT END-OF-LIFE (C2)

The following distances and transport conveyance are assumed for transportation during end of life for the different types of waste processing.

4 Scenarios and additional technical information

Waste Scenario	Transport conveyance	Not removed (stays in work) [km]	Landfill [km]	Incineration [km]	Recycling [km]	Re-use [km]
(ei3.9.1) Debris - STO mixed with 100% landfill	(ei3.9.1) Lorry (Truck), unspecified (default) | market group for (GLO)	0	100	150	50	0

The transport conveyance(s) used in the scenario(s) for transport during end of life has the following characteristics.

	Value and unit
Vehicle type used for transport	(ei3.9.1) Lorry (Truck), unspecified (default) | market group for (GLO)
Fuel type and consumption of vehicle	not available
Capacity utilisation (including empty returns)	50 % (loaded up and return empty)
Bulk density of transported products	inapplicable
Volume capacity utilisation factor	1

4.5 END OF LIFE (C3, C4)

The scenario(s) assumed for end of life of the product are given in the following tables.
First the assumed percentages per type of waste processing are displayed, followed by the assumed amounts.

Waste Scenario	Region	Not removed (stays in work) [%]	Landfill [%]	Incineration [%]	Recycling [%]	Re-use [%]
(ei3.9.1) Debris - STO mixed with 100% landfill	EU	0	100	0	0	0

Waste Scenario	Not removed (stays in work) [kg]	Landfill [kg]	Incineration [kg]	Recycling [kg]	Re-use [kg]
(ei3.9.1) Debris - STO mixed with 100% landfill	0.000	1.000	0.000	0.000	0.000
Total	**0.000**	**1.000**	**0.000**	**0.000**	**0.000**

4.6 BENEFITS AND LOADS BEYOND THE SYSTEM BOUNDARY (D)

The presented Benefits and loads beyond the system boundary in this EPD are based on the following calculated Net output flows in kilograms and Energy recovery displayed in MJ Lower Heating Value.

4 Scenarios and additional technical information

Waste Scenario	Net output flow [kg]	Energy recovery [MJ]
(ei3.9.1) Debris - STO mixed with 100% landfill	0.000	0.000
Total	**0.000**	**0.000**

5 Results

For the impact assessment long-term emissions (>100 years) are not considered. The results of the impact assessment are only relative statements that do not make any statements about end-points of the impact categories, exceedance of threshold values, safety margins or risks. The following tables show the results of the indicators of the impact assessment, of the use of resources as well as of waste and other output flows.

5.1 ENVIRONMENTAL IMPACT INDICATORS PER KG

CORE ENVIRONMENTAL IMPACT INDICATORS EN 15804+A2

Abbr.	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP-total	kg CO_2 eq.	3.19E-1	5.50E-2	2.90E-1	6.64E-1	9.95E-2	1.37E-1	0.00E+0	1.49E-2	0.00E+0	6.08E-3	-2.30E-2
GWP-f	kg CO_2 eq.	3.18E-1	5.49E-2	3.91E-1	7.64E-1	9.94E-2	3.37E-2	0.00E+0	1.48E-2	0.00E+0	6.08E-3	-2.29E-2
GWP-b	kg CO_2 eq.	4.82E-4	1.77E-5	-1.02E-1	-1.01E-1	3.20E-5	1.04E-1	0.00E+0	4.84E-6	0.00E+0	2.65E-6	-1.68E-5
GWP-luluc	kg CO_2 eq.	1.70E-4	2.70E-5	3.90E-4	5.87E-4	4.91E-5	7.83E-6	0.00E+0	5.29E-5	0.00E+0	3.67E-6	-3.55E-5
ODP	kg CFC 11 eq.	1.33E-8	1.36E-9	1.00E-8	2.47E-8	2.16E-9	9.41E-10	0.00E+0	2.64E-10	0.00E+0	1.76E-10	-1.23E-9
AP	mol H+ eq.	1.85E-3	1.26E-4	8.26E-4	2.80E-3	2.17E-4	3.82E-5	0.00E+0	7.11E-5	0.00E+0	4.58E-5	-5.46E-5
EP-fw	kg P eq.	6.95E-6	4.45E-7	8.94E-6	1.63E-5	8.07E-7	1.54E-7	0.00E+0	1.48E-7	0.00E+0	5.93E-8	-5.26E-7
EP-m	kg N eq.	2.74E-4	3.23E-5	2.30E-4	5.36E-4	5.35E-5	1.37E-5	0.00E+0	2.70E-5	0.00E+0	1.75E-5	-1.74E-5
EP-T	mol N eq.	3.03E-3	3.38E-4	2.39E-3	5.76E-3	5.57E-4	1.47E-4	0.00E+0	2.88E-4	0.00E+0	1.88E-4	-2.44E-4
POCP	kg NMVOC eq.	1.21E-3	1.92E-4	9.43E-4	2.35E-3	3.37E-4	4.76E-5	0.00E+0	9.83E-5	0.00E+0	6.56E-5	-7.34E-5
ADP-mm	kg Sb-eq.	1.45E-6	1.99E-7	7.33E-7	2.38E-6	3.25E-7	3.22E-8	0.00E+0	4.65E-8	0.00E+0	8.44E-9	-1.41E-8
ADP-f	MJ	6.97E+0	7.81E-1	5.54E+0	1.33E+1	1.41E+0	7.35E-2	0.00E+0	2.13E-1	0.00E+0	1.51E-1	-3.68E-1
WDP	m3 world eq.	2.10E-1	3.63E-3	5.97E-2	2.74E-1	6.62E-3	2.03E-3	0.00E+0	1.30E-3	0.00E+0	6.80E-3	-2.55E-3

GWP-total=Global Warming Potential total (GWP-total) | **GWP-f**=Global Warming Potential fossil fuels (GWP-fossil) | **GWP-b**=Global Warming Potential biogenic (GWP-biogenic) | **GWP-luluc**=Global Warming Potential land use and land use change (GWP-luluc) | **ODP**=Depletion potential of the stratosperic ozon layer (ODP) | **AP**=Acidification potential, Accumulated Exceedance (AP) | **EP-fw**=Eutrophication potential, fraction of nutrients reaching freshwater end compartment (EP-freshwater) | **EP-m**=Eutrophication potential, fraction of nutrients reaching marine end compartment (EP-marine) | **EP-T**=Eutrophication potential, Accumulated Exceedance (EP-terrestrial) | **POCP**=Formation potential of tropospheric ozone (POCP) | **ADP-mm**=Abiotic depletion potential for non fossil resources (ADP mm) | **ADP-f**=Abiotic depletion for fossil resources potential (ADP fossil) | **WDP**=Water (user) deprication potential, deprivation-weighted water consumption (WDP)

5 Results

ADDITIONAL ENVIRONMENTAL IMPACT INDICATORS EN 15804+A2

Abbr.	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D
PM	disease incidence	1.40E-8	4.09E-9	9.38E-9	2.75E-8	7.38E-9	5.60E-10	0.00E+0	1.47E-9	0.00E+0	1.00E-9	-6.45E-10
IR	kBq U235 eq.	6.64E-3	4.43E-4	1.12E-2	1.83E-2	7.15E-4	1.49E-4	0.00E+0	8.29E-5	0.00E+0	4.00E-5	-7.90E-5
ETP-fw	CTUe	1.44E+0	3.90E-1	7.43E-1	2.58E+0	6.98E-1	3.99E-1	0.00E+0	1.57E-1	0.00E+0	7.11E-2	-3.07E-2
HTP-c	CTUh	8.22E-10	2.49E-11	1.97E-10	1.04E-9	4.53E-11	1.35E-11	0.00E+0	7.86E-12	0.00E+0	2.59E-12	-6.76E-12
HTP-nc	CTUh	1.52E-8	5.55E-10	2.51E-9	1.82E-8	1.00E-9	1.17E-10	0.00E+0	1.71E-10	0.00E+0	3.24E-11	-1.28E-10
SQP	Pt	1.47E+0	4.72E-1	8.53E+0	1.05E+1	8.53E-1	2.91E-2	0.00E+0	1.68E-1	0.00E+0	3.01E-1	-3.84E+0

PM=Potential incidence of disease due to PM emissions (PM) | **IR**=Potential Human exposure efficiency relative to U235 (IRP) | **ETP-fw**=Potential Comparative Toxic Unit for ecosystems (ETP-fw) | **HTP-c**=Potential Comparative Toxic Unit for humans (HTP-c) | **HTP-nc**=Potential Comparative Toxic Unit for humans (HTP-nc) | **SQP**=Potential soil quality index (SQP)

CLASSIFICATION OF DISCLAIMERS TO THE DECLARATION OF CORE AND ADDITIONAL ENVIRONMENTAL IMPACT INDICATORS

ILCD classification	Indicator	Disclaimer
ILCD type / level 1	Global warming potential (GWP)	None
	Depletion potential of the stratospheric ozone layer (ODP)	None
	Potential incidence of disease due to PM emissions (PM)	None
ILCD type / level 2	Acidification potential, Accumulated Exceedance (AP)	None
	Eutrophication potential, Fraction of nutrients reaching freshwater end compartment (EP-freshwater)	None
	Eutrophication potential, Fraction of nutrients reaching marine end compartment (EP-marine)	None
	Eutrophication potential, Accumulated Exceedance (EP-terrestrial)	None
	Formation potential of tropospheric ozone (POCP)	None
	Potential Human exposure efficiency relative to U235 (IRP)	1
ILCD type / level 3	Abiotic depletion potential for non-fossil resources (ADP-minerals&metals)	2
	Abiotic depletion potential for fossil resources (ADP-fossil)	2
	Water (user) deprivation potential, deprivation-weighted water consumption (WDP)	2
	Potential Comparative Toxic Unit for ecosystems (ETP-fw)	2
	Potential Comparative Toxic Unit for humans (HTP-c)	2
	Potential Comparative Toxic Unit for humans (HTP-nc)	2

5 Results

ILCD classification	Indicator	Disclaimer
	Potential Soil quality index (SQP)	2

Disclaimer 1 – This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator.

Disclaimer 2 – The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.

5.2 INDICATORS DESCRIBING RESOURCE USE AND ENVIRONMENTAL INFORMATION BASED ON LIFE CYCLE INVENTORY (LCI)

PARAMETERS DESCRIBING RESOURCE USE

Abbr.	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D
PERE	MJ	2.42E-1	1.22E-2	6.05E-1	8.59E-1	2.22E-2	4.67E-3	0.00E+0	3.01E-3	0.00E+0	1.28E-3	-7.07E-1
PERM	MJ	0.00E+0	0.00E+0	9.84E-1	9.84E-1	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
PERT	MJ	2.42E-1	1.22E-2	1.59E+0	1.84E+0	2.22E-2	4.67E-3	0.00E+0	3.01E-3	0.00E+0	1.28E-3	-7.07E-1
PENRE	MJ	4.93E+0	7.81E-1	4.91E+0	1.06E+1	1.41E+0	7.35E-2	0.00E+0	2.13E-1	0.00E+0	1.51E-1	-3.50E-1
PENRM	MJ	2.04E+0	0.00E+0	6.25E-1	2.67E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	-1.82E-2
PENRT	MJ	6.97E+0	7.81E-1	5.54E+0	1.33E+1	1.41E+0	7.35E-2	0.00E+0	2.13E-1	0.00E+0	1.51E-1	-3.68E-1
SM	Kg	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
RSF	MJ	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
NRSF	MJ	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
FW	m^3	5.36E-3	1.22E-4	2.98E-3	8.46E-3	2.22E-4	6.93E-5	0.00E+0	5.47E-5	0.00E+0	1.63E-4	-4.42E-5

PERE=Use of renewable primary energy excluding renewable primary energy resources used as raw materials | **PERM**=Use of renewable primary energy resources used as raw materials | **PERT**=Total use of renewable primary energy resources | **PENRE**=Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials | **PENRM**=Use of non-renewable primary energy resources used as raw materials | **PENRT**=Total use of non-renewable primary energy resources | **SM**=Use of secondary material | **RSF**=Use of renewable secondary fuels | **NRSF**=Use of non-renewable secondary fuels | **FW**=Net use of fresh water

5 Results

OTHER ENVIRONMENTAL INFORMATION DESCRIBING WASTE CATEGORIES

Abbr.	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D
HWD	Kg	1.42E-5	4.92E-6	1.55E-5	3.46E-5	8.98E-6	3.82E-7	0.00E+0	1.36E-6	0.00E+0	8.02E-7	-1.50E-6
NHWD	Kg	1.69E-1	3.87E-2	6.42E-2	2.72E-1	7.01E-2	3.03E-2	0.00E+0	1.40E-2	0.00E+0	1.00E+0	-1.41E-3
RWD	Kg	5.04E-6	3.36E-7	8.93E-6	1.43E-5	4.64E-7	1.09E-7	0.00E+0	4.87E-8	0.00E+0	2.24E-8	-5.73E-8

HWD=Hazardous waste disposed | **NHWD**=Non-hazardous waste disposed | **RWD**=Radioactive waste disposed

ENVIRONMENTAL INFORMATION DESCRIBING OUTPUT FLOWS

Abbr.	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D
CRU	Kg	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
MFR	Kg	0.00E+0	0.00E+0	6.90E-6	6.90E-6	0.00E+0	4.80E-2	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
MER	Kg	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
EET	MJ	0.00E+0	0.00E+0	1.90E-2	1.90E-2	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	2.21E-1
EEE	MJ	0.00E+0	0.00E+0	1.10E-2	1.10E-2	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	1.28E-1

CRU=Components for re-use | **MFR**=Materials for recycling | **MER**=Materials for energy recovery | **EET**=Exported Energy, Thermic | **EEE**=Exported Energy, Electric

5 Results

5.3 INFORMATION ON BIOGENIC CARBON CONTENT PER KG

BIOGENIC CARBON CONTENT

The following Information describes the biogenic carbon content in (the main parts of) the product at the factory gate per kg:

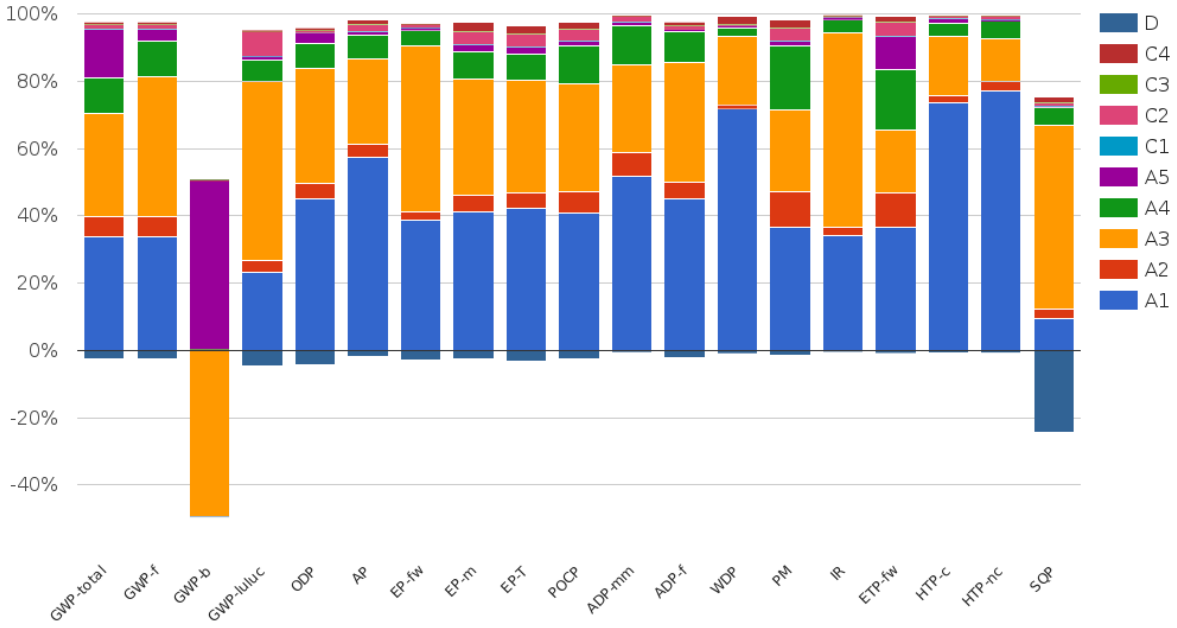
Biogenic carbon content	Amount	Unit
Biogenic carbon content in the product	0	kg C
Biogenic carbon content in accompanying packaging	0.02811	kg C

UPTAKE OF BIOGENIC CARBON DIOXIDE

The following amount of carbon dioxide uptake is taken into account. Related uptake and release of carbon dioxide in downstream processes are not taken into account in this number although they do appear in the presented results. One kilogram of biogenic Carbon content is equivalent to 44/12 kg of biogenic carbon dioxide uptake.

Uptake Biogenic Carbon dioxide	Amount	Unit
Packaging	0.1031	kg CO2 (biogenic)

6 Interpretation of results



The figure above shows the impact of different life stages on the LCA results in accordance to their respective environmental impact indicator.

The raw materials (A1) have the highest impact on the indicators GWP-b, ODP, AP,EP-fw, WDP, IR, HTP-c and HTP-nc with at least 60 % of the total impact. This can be attributed to the impact of the binder and flame retardent.

The production process (A3) has an impact of around 20 % on the indicators GWP-total and GWP-f.This can be attributed to the use of natural gas and electricity during the drying process.

The transport modules A4 and A2 have a small impact on all indicators, due to the weight of the declared unit. This might change for a calculation per m².

6 Interpretation of results

For the reported indicators, the absolute contributions from modules C1 and C2 and C3 are lower than those from C4 due to the declared scenarios amount of 100 % landfill.

Since the formulation of the different product variations can be scaled linearly on basis of this EPD, there is no variation in results to be expected if calculated on a basis of individual brick slip or per m².

7 References

ISO 14040
ISO 14040:2006-10, Environmental management - Life cycle assessment - Principles and framework; EN ISO 14040:2006

ISO 14044
ISO 14044:2006-10, Environmental management - Life cycle assessment - Requirements and guidelines; EN ISO 14044:2006

ISO 14025
ISO 14025:2011-10, Environmental labels and declarations — Type III environmental declarations — Principles and procedures

EN 15804+A2
EN 15804:2012+A2:2019/AC:2021, Sustainability of Buildings - Environmental Product Declarations - Framework Development Rules by Product Category

Ecoinvent
ecoinvent Version 3.9.1 (December 2022)

R<THINK characterization method
ecoinvent 3.9.1: EN 15804+A1 indicators (CML-IA Baseline v3.09), EN 15804+A2 indicators (EF 3.1)

Kiwa-EE GPI R.4.0 Kiwa-Ecobility Experts, General Programme Instructions “Product Level”, Program EE 1201 (18.12.2025)

Kiwa-EE GPI R.4.0 Annex B1 Kiwa-Ecobility Experts, General Programme Instructions “Product Level” – Annex B1 Environmental Information Programme according to EN 15804 / ISO 21930, Program EE 1203 (27.02.2025)

UN CPC Ver. 3.0, last updated on 30 June 2025

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