

ENVIRONMENTAL PRODUCT DECLARATION

In accordance with ISO 14025:2006 and EN 15804:2012+A2:2019/AC:2021 for:

weber lerputs grov

THE INTERNATIONAL EPD® SYSTEM

The International EPD® System:
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Programme information

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CEN standard EN 15804:2012+A2:2019/AC:2021 as the Core Product Category Rules (PCR)

Product category rules (PCR): PCR 2019:14 Construction Products, version 1.3.2

PCR review was conducted by: The Technical Committee of the International EPD System. See www.environdec.com for a list of members.
Review chair: Claudia A. Peña, University of Concepción, Chile.
The review panel may be contacted via the Secretariat www.environdec.com/contact.

Independent third-party verification of the declaration and data, according to ISO 14025:2006:
☐ EPD process certification ☒ EPD verification

Third party verifier: Andrew Norton, Renuables ltd. E-mail: a.norton@renuables.co.uk

Approved by: The International EPD© System

Procedure for follow-up of data during EPD validity involves third part verifier: ☐ Yes ☒ No

The EPD owner has the sole ownership, liability and responsibility for the EPD.

EPDs within the same product category but registered in different EPD programmes, or not compliant with EN 15804, may not be comparable. For two EPDs to be comparable, they must be based on the same PCR (including the same version number) or be based on fully-aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical declared/functional units); have equivalent system boundaries and descriptions of data; apply equivalent data quality requirements, methods of data collection, and allocation methods; apply identical cut-off rules and impact assessment methods (including the same version of characterisation factors); have equivalent content declarations; and be valid at the time of comparison. For further information about comparability, see EN 15804 and ISO 14025.

Product information

Product name: weber lerputs grov

Declared unit: 1 kg

UN CPC CODE: 37510 Non-refractory mortars and concretes

GTIN Number: 7391479828923

Company information

Manufacturer: Saint-Gobain Sweden AB, Weber, Pålamalmsvägen 60 146 33 Tullinge

Website: weber.se

Production plant(s): Riksten, Sweden

Management system - related certifications: ISO 9001 (Certificate No.: SE009960), ISO 14001 (Certificate No.: SE009958)

LCA & EPD Information

Owner of the declaration: Saint-Gobain Sweden AB, Weber

Contact person: Malin Dalborg (malin.dalborg@saint-gobin.com)

EPD® prepared by: Malin Dalborg (malin.dalborg@saint-gobin.com)

Type of EPD: Cradle to gate with options and optional modules (A+B+C+D)

Geographical scope of the EPD®: Sweden

Year of data collection: 2023

Product description

Product description and description of use

This Environmental Product Declaration (EPD®) describes the environmental impacts of 1 kg of weber lerputs grov 20 kg bags

Lerputs grov is a factory made dry mortar based on clay and well graded natural sand as aggregates. When mixed with water, it's ready to use render for indoor use. Pumpable clay based basecoat.

This EPD applies for one specific product produced at the Riksten Factory in Sweden by Saint-Gobain Sweden AB, Weber.

Technical data/physical characteristics:

Lerputs grov is not approved by any standard since there is no harmonized standard to certify against.

All technical characteristics and properties for the product could be found on the weber website:

https://www.se.weber

Declaration of the main product components and/or materials

Description of the main components and/or materials:

Product components	Weight (%)	Post-consumer material weight (%)	Biogenic material weight-% and kg C/ DU
Filler / Aggregates	97 – 99 %	0%	-
Additives	1 – 3 %	0%	-
Sum	**100**	**0%**	**-**

Packaging materials	Weight (kg)	Weight-% (vs the product)	Biogenic material, weight-kg C/ DU
Paper bag	0,0033 kg	0,33%	0,0014 kg
LDPE	0,0007 kg	0,07%	-
Wooden pallet	0,026 kg	2,6%	0,011 kg

Hazardous substances

During the life cycle of the product one or more hazardous substance listed in the “Candidate List of Substances of Very High Concern (SVHC) for authorization” has been used in a percentage higher than 0.1% of the weight of the product.

The verifier and the program operator do not make any claim nor have any responsibility of the legality of the product.

LCA calculation information

Parameter	Information
Type of epd	Cradle to gate with options, modules C1-C4 and module D.
Declared unit	1 kg weber lerputs grov
System boundaries	Mandatory stages = A1-A3; C1-C4 and D; Optional stages = A4-A5; B1-B7
Reference service life (rsl)	The Reference Service Life (RSL) of the mortar product is 50 years. This 50-year value is the amount of time that we recommend our products last for without refurbishment and corresponds to standard building design life.
Cut-off rules	All data is available, no cut-off rules has been applied. In the case that there is not enough information, the process energy and materials representing less than 1% of the whole energy and mass used can be excluded (if they do not cause significant impacts). The addition of all the inputs and outputs excluded cannot be bigger than the 5% of the whole mass and energy used, as well of the emissions to environment occurred. Flows related to human activities such as employee transport are excluded. The construction of plants, production of machines and transportation systems are excluded since the related flows are supposed to be negligible compared to the production of the building product when compared at these systems lifetime level.
Allocations	Allocation has been avoided when possible and when not possible a mass allocation has been applied. The polluter pays and the modularity principles as well have been followed.
Geographical coverage And time period	Scope: Sweden Data is collected from one production site Riksten, Sweden Data collected for the year 2023
Background data source	The databases Sphera 2023.2 and ecoinvent v.3.9.1
Software	Sphera LCA for experts (GaBi) 10

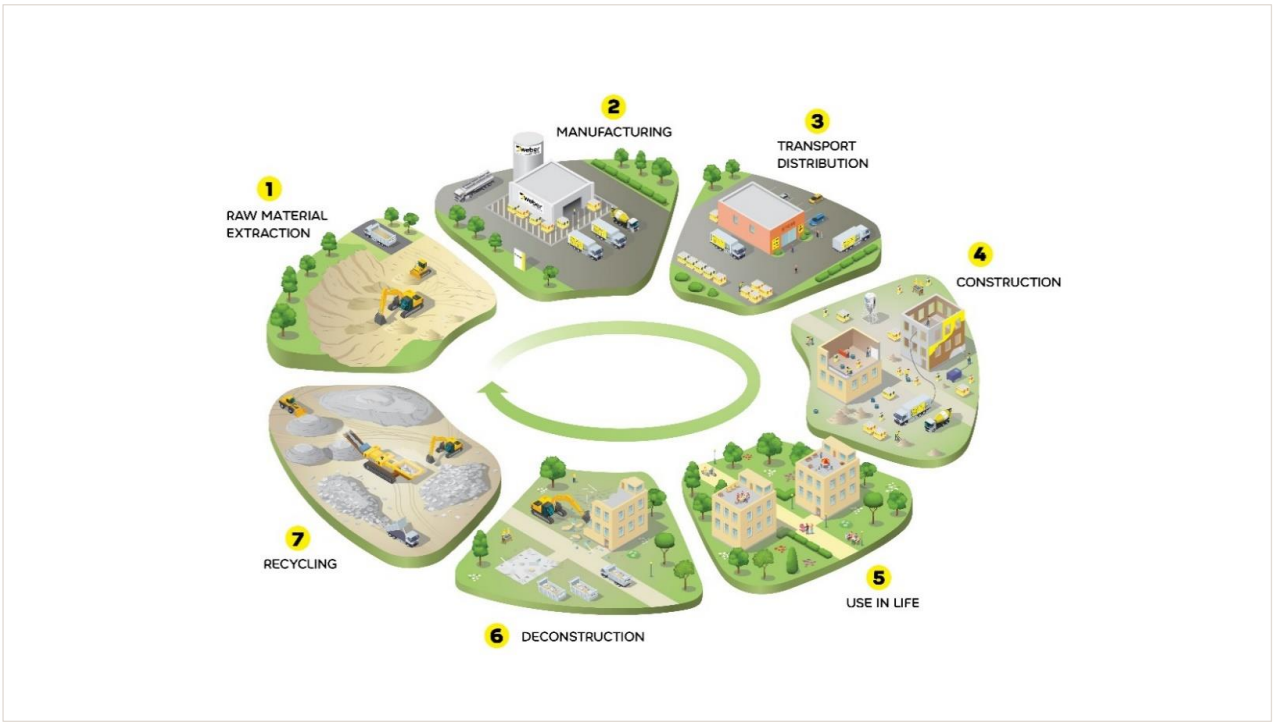
LCA scope

System boundaries (X=included. MND=module not declared)

	Product stage			Construction stage		Use stage							End of life stage				Benefits and loads beyond the system boundary
	Raw material supply	Transport	Manufacturing	Transport	Construction-Installation process	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-recovery
Module	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Modules declared	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Geography	GLO	GLO	SE	SE	SE	SE							SE	SE	SE	SE	SE

Specific data used[1]	>53,7 %
Variation products	0 %
Variation sites	0 %

Life cycle stages



[1] For this study, specific data is considered as energy and water consumptions, wastes and emissions related to the manufacturing process.

A1-A3. Product stage

The product stage of plaster products is subdivided into 3 modules:

A1. Raw materials supply
This module includes the extraction and transformation of raw materials.

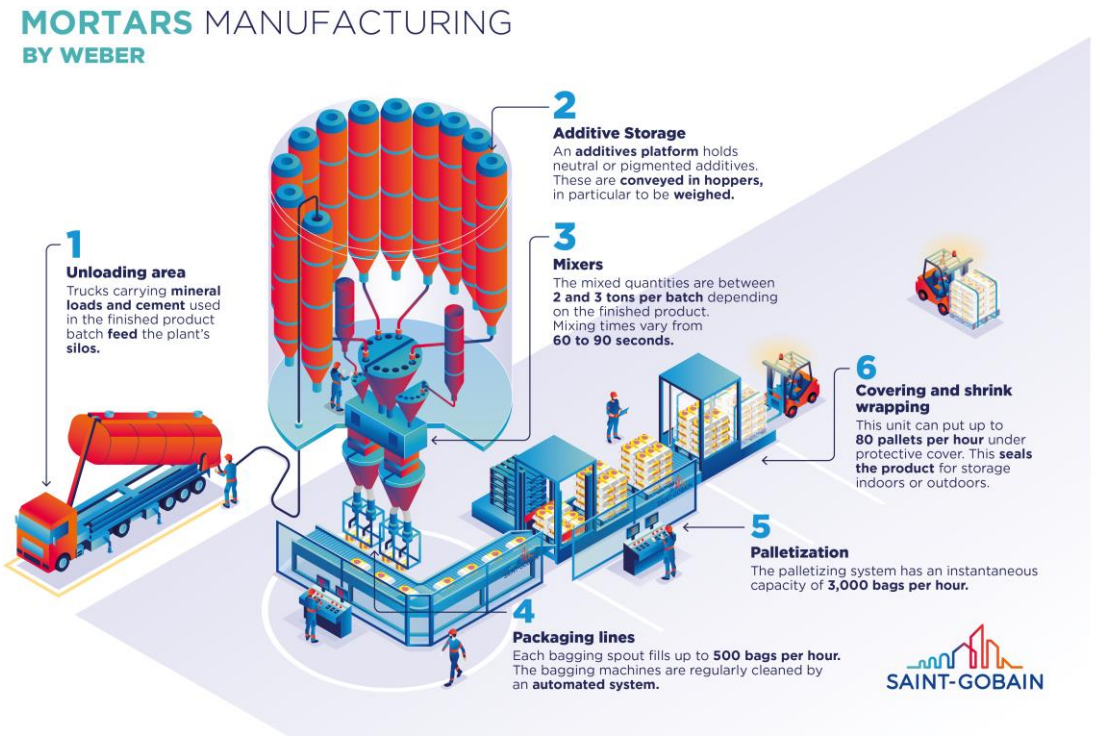
A2. Transport to the manufacturer
This module includes the transportation of raw materials and packaging to the manufacturing site. The modelling includes road, boat and/or train transportations.

A3. Manufacturing
This module includes the manufacture of products and the manufacture of packaging. The production of packaging material is considered at this stage. The processing of any waste arising from this stage is also included.

During the manufacturing process, electricity based on 100% renewable electricity bought with Guarantee of Origin (GO) has been used. The amount of electricity purchases with GO's correspond to 100% of the electricity consumed at the manufacturing site, leaving 0% to be covered by Swedish national grid mix.

Manufacturing process flow diagram

System diagram:
Basic scheme of a Mortar Production line



Manufacturing in detail:

The manufacturing activities include grinding, drying, storing, mixing and loading onto truck.

Electricity information

The factory based in Riksten, Sweden, uses the following electricity description

Parameter	Value / description
Location	Electricity purchased by Saint-Gobain Gobain Sweden AB
Share of electricity covered by Guarantee of Origin	100% of the electricity consumption is covered by the GO
Geographical representativeness description	Split of electricity bought with Guarantee of Origin: Hydro 100 %
Reference year	2023 *The GO will be prolonged to be valid at least to the validity of this EPD.*
Type of dataset	Cradle to gate from Sphera and ecoinvent databases
Source	Guarantee of Origin: Sphera dataset (2023) and Entilios (Supplier of GO)
CO_2 emission (kg CO_2 eq. / kWh) (Based on Climate Change Fossil Indicator)	Guarantee of Origin: 0,006 kg of CO_2 eq /kWh

A4-A5. Construction process stage

The construction process is divided into 2 modules:

A4. Transport to the building site:
This module includes transport from the production gate to the building site. Transport is calculated based on a scenario with the parameters described in the following table.

Parameter	Value / Description
Fuel type and consumption of vehicle or vehicle type used for transport e.g., long distance truck, boat, etc.	Freight truck, maximum load weight of 27 t and consumption of 0,38 liters diesel per km. Real 24 t payload
Distance	300 km by truck
Capacity utilization (including empty returns)	100% of the capacity in volume 89% of the capacity in weight 30% of empty returns
Bulk density of transported products	1299 kg/m3

A5. Installation in the building:

This module includes the parameters for installing the product at the building site. All installation materials and their waste processing are included.

Parameter	Value / Description
Secondary materials for installation (specified by materials)	None
Water use	0,20 liters/kg of dry mortar
Other resource use	None
Quantitative description of energy type (regional mix) and consumption during the installation process	0,00396 MJ/kg of dry mortar
Wastage of materials on the building site before waste processing, generated by the product's installation (specified by type)	Product: 5% Paper bag: 100% LDPE: 100% Wooden pallet: 100%
Output materials (specified by type) as results of waste processing at the building site e.g., of collection for recycling, for energy recovering, disposal (specified by route)	Product: 0,05 kg: 100% landfill Paper bag: 0,0033 kg: 50% landfill, 50% energy recovery LDPE: 0,0007 kg: 10% recycled, 90% energy recovery Wooden pallet: 0,026 kg: 50% recycled, 50% energy
Use of pallet	7 times before end of life
Distance to waste treatment facilities	50 km to landfill
Direct emissions to ambient air, soil, and water	None

B1-B7. Use stage (excluding potential savings)

The use stage is divided into the following modules:

- B1: Use
- B2: Maintenance
- B3: Repair
- B4: Replacement
- B5: Refurbishment
- B6: Operational energy use
- B7: Operational water use

Once installation is complete, no actions or technical operations are required during the use stages until the end-of-life stage. The product does not require any energy, water or material input to keep it in working condition. The product covered by this EPD does not require any maintenance as it is aimed for gluing different types of tiles. In addition, due to the product durability, maintenance, repair, replacement, or restoration are irrelevant in the specified applications. Declared product performances therefore assume a working life that equals the building's lifetime. For this reason, no environmental loads are attributed to any of the modules between B1 and B7 and carbonation has not been included for this product.

C1-C4. End of Life Stage

This stage includes the next modules:

C1. Deconstruction, demolition
The de-construction and/or dismantling of the product take part of the demolition of the entire building.

C2. Transport to waste processing
Transport to waste processing

C3. Waste processing for reuse, recovery and/or recycling
Waste processing for reuse, recovery and/or recycling.
90% of the product is considered to be recycled.

C4. Disposal
10% of the product is considered to be sent to landfill.

Description of the scenarios and additional technical information for the end of life:

Parameter	Value / Description
Energy for de-construction / demolition	0,045 MJ/kg diesel
Collection process specified by type	1 kg mortar + part of water from A5 collected with mixed construction waste.
Recovery system specified by type	90% of product to recycling
Disposal specified by type	10% of product to municipal landfill
Assumptions for scenario development (e.g., transportation)	The waste going to landfill will be transported by truck with 24 t payload, using diesel as a fuel and consuming 0,38 liter per km. Distance to landfill: 50 km Distance to recycling: 50 km

D. Reuse/recovery/recycling potential

90% of the product wastes is recycled which is accounted for in module D.
The LDPE film is considered to be 10% recycled and 90% incinerated with energy recovery.
The wooden Pallet is considered, after it has been reused several times, to go to 50% recycling and 50% to incineration with energy recovery.
The paper bag is considered to go to 50% landfill and 50% incineration with energy recovering.

LCA results

As specified in EN 15804:2012+A2:2019/AC:2021 and the Product-Category Rules, the environmental impacts are declared and reported using the baseline characterization factors are from the ILCD. Raw materials and energy consumption, as well as transport distances have been taken directly from the manufacturing plant. Characterization factors of EN15804 are based on EF 3.1.

The estimated impact results are only relative statements which do not indicate the end points of the impact categories, exceeding threshold values, safety margins or risks.

All emissions to air, water, and soil, and all materials and energy used have been included.

The results of the impact categories abiotic depletion of minerals and metals, land use, human toxicity (cancer), human toxicity, noncancer and ecotoxicity (freshwater) may be highly uncertain in LCAs that include capital goods/infrastructure in generic datasets in case infrastructure/capital goods contribute greatly to the total results. This is because the LCI data of infrastructure/capital goods used to quantify these indicators in currently available generic datasets sometimes lack temporal, technological, and geographical representativeness. Caution should be taken when using the results of these indicators for decision-making purposes.

Since this EPD includes module C, we strongly advise not to use the results of modules A1-A3 without considering the results of module C.

All figures refer to a declared unit of 1 kg of weber lerputs grov produced at a single plant; Riksten, Sweden.

Environmental Impacts

Environmental indicators	Product stage	Construction stage		Use stage							End of life stage				Benefits and loads beyond the life cycle
	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	D Reuse, recovery, recycling
Climate Change (total) [kg CO_2 eq.]	6,20E-03	2,03E-02	5,17E-02	0	0	0	0	0	0	0	4,00E-03	3,32E-03	0	1,49E-03	1,29E-05
Climate Change (fossil) [kg CO_2 eq.]	4,63E-02	2,01E-02	7,81E-03	0	0	0	0	0	0	0	3,99E-03	3,28E-03	0	1,48E-03	-2,39E-04
Climate Change (biogenic) [kg CO_2 eq.]	-4,02E-02	5,33E-05	4,39E-02	0	0	0	0	0	0	0	3,46E-06	8,72E-06	0	4,14E-06	2,32E-04
Climate Change (land use change) [kg CO_2 eq.]	1,14E-04	1,89E-04	1,94E-05	0	0	0	0	0	0	0	7,61E-08	3,08E-05	0	4,67E-06	1,95E-05
Ozone depletion [kg CFC-11 eq.]	1,21E-09	1,79E-15	6,61E-11	0	0	0	0	0	0	0	3,07E-16	3,07E-16	0	3,82E-15	-1,37E-11
Acidification terrestrial and freshwater [Mole of H+ eq.]	1,78E-04	2,31E-05	1,83E-05	0	0	0	0	0	0	0	6,29E-06	3,82E-06	0	1,07E-05	1,51E-05
Eutrophication freshwater [kg P eq.]	2,65E-06	7,44E-08	1,56E-07	0	0	0	0	0	0	0	7,72E-10	1,22E-08	0	3,03E-09	-1,66E-06
Eutrophication marine [kg N eq.]	5,15E-05	7,88E-06	7,99E-06	0	0	0	0	0	0	0	2,18E-06	1,31E-06	0	2,75E-06	1,49E-05
Eutrophication terrestrial [Mole of N eq.]	5,10E-04	9,31E-05	5,54E-05	0	0	0	0	0	0	0	2,40E-05	1,54E-05	0	3,03E-05	1,20E-04
Photochemical ozone formation - human health [kg NMVOC eq.]	1,50E-04	2,00E-05	1,49E-05	0	0	0	0	0	0	0	6,58E-06	3,32E-06	0	8,31E-06	3,32E-05
Resource use, mineral and metals [kg Sb eq.][2]	2,93E-08	1,33E-09	1,87E-09	0	0	0	0	0	0	0	4,04E-11	2,17E-10	0	6,95E-11	8,91E-10
Resource use, energy carriers [MJ][2]	7,34E-01	2,78E-01	7,39E-02	0	0	0	0	0	0	0	5,32E-02	4,53E-02	0	2,00E-02	-1,72E-02
Water deprivation potential [m^3 world equiv.][2]	1,26E-02	2,35E-04	1,16E-02	0	0	0	0	0	0	0	1,03E-05	3,86E-05	0	1,65E-04	2,23E-04

[2] 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

Resources Use

	Product stage	Construction stage		Use stage							End of life stage				Benefits and loads beyond the life cycle
Resources Use indicators	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	D Reuse, recovery, recycling
Use of renewable primary energy (PERE) [MJ][3]	6,15E-01	1,97E-02	5,28E-02	0	0	0	0	0	0	0	2,35E-04	3,22E-03	0	3,26E-03	-9,70E-02
Use of renewable primary energy resources used as raw materials (PERM) [MJ][3]	5,37E-02	0	-4,03E-01	0	0	0	0	0	0	0	0	0	0	0	0
Total use of renewable primary energy resources (PERT) [MJ] [3]	6,68E-01	1,97E-02	-3,50E-01	0	0	0	0	0	0	0	2,35E-04	3,22E-03	0	3,26E-03	-9,70E-02
Use of non-renewable primary energy (PENRE) [MJ] [3]	2,97E-01	2,78E-01	6,48E-02	0	0	0	0	0	0	0	5,33E-02	4,54E-02	0	2,00E-02	-1,72E-02
Non-renewable primary energy resources used as raw materials (PENRM) [MJ] [3]	4,37E-01	0	8,47E-04	0	0	0	0	0	0	0	0	0	0	0	0
Total use of non-renewable primary energy resources (PENRT) [MJ] [3]	7,35E-01	2,78E-01	6,57E-02	0	0	0	0	0	0	0	5,33E-02	4,54E-02	0	2,00E-02	-1,71E-02
Input of secondary material (SM) [kg]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Use of renewable secondary fuels (RSF) [MJ]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Use of non-renewable secondary fuels (NRSF) [MJ]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Use of net fresh water (FW) [m^3]	3,30E-04	2,17E-05	2,76E-04	0	0	0	0	0	0	0	3,82E-07	3,54E-06	0	5,05E-06	1,34E-06

[3] From EPD International Construction Product PCR 1.3.2 (Annex 3). The option B was retained to calculate the primary energy use indicators.

Waste Category & Output flows

	Product stage	Construction stage		Use stage							End of life stage				Benefits and loads beyond the life cycle
Waste Category & Output Flows	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational	B7 Operational water	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	D Reuse, recovery, recycling
Hazardous waste disposed (HWD) [kg]	7,20E-07	1,03E-12	3,80E-08	0	0	0	0	0	0	0	1,54E-13	1,65E-13	0	4,36E-13	2,06E-07
Non-hazardous waste disposed (NHWD) [kg]	4,82E-02	4,01E-05	5,47E-02	0	0	0	0	0	0	0	1,10E-05	6,59E-06	0	1,00E-01	-3,75E-02
Radioactive waste disposed (RWD) [kg]	3,70E-06	3,60E-07	1,63E-06	0	0	0	0	0	0	0	6,15E-08	6,16E-08	0	2,28E-07	-1,96E-06
Components for re-use (CRU) [kg]	0	0	2,39E-02	0	0	0	0	0	0	0	0	0	0	0	0
Materials for Recycling (MFR) [kg]	2,09E-04	0	1,80E-03	0	0	0	0	0	0	0	0	0	9,00E-01	0	0
Material for Energy Recovery (MER) [kg]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exported electrical energy (EEE) [MJ]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exported thermal energy (EET) [MJ]	0	0	3,76E-02	0	0	0	0	0	0	0	0	0	0	0	0

Additional indicators from EN 15804

		Product stage	Construction stage		Use stage							End of life stage				Benefits and loads beyond the life cycle
Environmental indicators		A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	D Reuse, recovery, recycling
	GWP-GHG / GWP-IOBC [kg CO_2 eq.][4]	4,64E-02	2,03E-02	7,83E-03	0	0	0	0	0	0	0	3,99E-03	3,31 E-03	0	1,49E-03	-2,20E-04

Information on biogenic carbon content

	At factory gate
Biogenic Carbon Content in kg C	**A1 / A2 / A3**
Biogenic carbon content in product [kg]	0
Biogenic carbon content in packaging [kg]	1,20E-02

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

The product contains biogenic carbon due to the additives used. Regarding packaging, biogenic carbon is quantified due to wooden pallets.

[4] The indicator includes all greenhouse gases included in GWP-total but excludes biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. This indicator is thus almost equal to the GWP indicator originally defined in EN 15804:2012+A1:2013.

Additional information:

Information related to Sector EPD

This is a product specific EPD, therefore no information needed.

Differences with previous versions of the EPD

This is the first version of the EPD.

References

1. ISO 14040:2006: Environmental Management-Life Cycle Assessment-Principles and framework.
2. ISO 14044:2006: Environmental Management-Life Cycle Assessment-Requirements and guidelines.
3. ISO 14025:2006: Environmental labels and Declarations-Type III Environmental Declarations-Principles and procedures.
4. EN 998-1:2016 Specification for mortar for masonry Rendering and plastering mortar
5. EN 15804:2012+A1:2013 - Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products
6. EN 15804:2012+A2:2019/AC:2021 - Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products
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9. The International EPD System PCR 2019:14 Construction products and Construction services. Version 1.3.2
10. European Chemical Agency, Candidate List of substances of very high concern for Authorization. https://echa.europa.eu/candidate-list-table
11. LCA report, Riksten, Saint-Gobain Sweden AB, Weber, 11.2024_v3