

# ENVIRONMENTAL PRODUCT DECLARATION

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



THE INTERNATIONAL EPD® SYSTEM

The International EPD® System:

Program operator: EPD International AB

Registration number: EPD-IES-0020037

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## weber Undervattensbetong, vinter

**Version 1**

**Date of publication: 2025/02/14**

**Validity: 5 years**

**Valid until: 2030/02/13**

**Scope of the EPD®: Sweden and  
other Nordic countries**



## Programme information

|                   |                                                                  |
|-------------------|------------------------------------------------------------------|
| <b>Programme:</b> | The International EPD® System                                    |
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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](http://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](http://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](mailto: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 Undervattensbetong, vinter

**Declared unit:** 1 kg

**UN CPC CODE:** 37510 Non-refractory mortars and concretes

**GTIN numbers:** 7391479745473

## 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:** Helene Løvkvist Andersen (Helene.lovkvist.andersen@saint-gobain.com)

**EPD® prepared by:** Helene Løvkvist Andersen (Helene.lovkvist.andersen@saint-gobain.com)

**Type of EPD:** Cradle to gate with options, modules C1-C4 and module D.

**Geographical scope of the EPD®:** Sweden and Nordic countries

**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 Undervattensbetong, vinter delivered in 20 kg bags.

weber Undervattensbetong, vinter is a pumpable dry concrete suitable for underwater casting as it contains UV additives. It can be used for concrete laying and casting work where a pumpable high-grade and very durable concrete is required.

All technical characteristics and properties for the product could be find on the website:  
<https://www.se.weber/betong-cement-vagglagning/pumpbetong/weber-undervattensbetong-vinter>

This EPD applies for products only produced at the Riksten Factory in Sweden by Saint-Gobain Sweden AB, Weber

## Technical data/physical characteristics:

| Technical data / physical characteristics |                             |              |
|-------------------------------------------|-----------------------------|--------------|
| Compressive strength 28 days              | > 50 MPa                    | EN 12390-3   |
| Water Cement Ratio                        | 0,40                        |              |
| Exposure class                            | X0, XC4, XS3, XD3, XF4, XA2 | EN 206-1     |
| Waterproof                                | Yes                         | SS 137214    |
| Frost resistance                          | Yes, XF4                    | SS 137144 1A |

## 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 |
|---------------------|-------------|-----------------------------------|------------------------------------------|
| Binder              | 30 – 50 %   | 0%                                | -                                        |
| Filler / Aggregates | 50 – 70 %   | 0%                                | -                                        |
| Additives           | 0,1 - 3 %   | 0%                                | -                                        |
| Sum                 | 100%        |                                   |                                          |
| Packaging materials | Weight (kg) | Weight-% (vs the product)         | Biogenic material, weight- kg C/ DU      |
| Paper bag           | 0,00325 kg  | 0,33%                             | 0,0014 kg                                |
| LDPE                | 0,0007 kg   | 0,07%                             | -                                        |
| Wooden pallet       | 0,026 kg    | 2,6%                              | 0,011 kg                                 |

## Hazardous substances

At the date of issue of this declaration, there is no “Substance of Very High Concern” (SVHC) in concentration above 0.1% by weight, and neither do their packaging, following the European REACH regulation (Registration, Evaluation, Authorization and Restriction of Chemicals).

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Type of EPD</b>                               | Cradle to gate with options, modules C1-C4 and module D.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Declared unit</b>                             | 1 kg of weber Undervattensbetong, vinter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>System boundaries</b>                         | Mandatory stages = A1-A3; C1-C4 and D; Optional stages = A4-A5; B1-B7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Reference service life (RSL)</b>              | 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.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Cut-off rules</b>                             | <p>All data is available, no cut-off rules has been applied.</p> <p>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.</p> <p>Flows related to human activities such as employee transport are excluded.</p> <p>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.</p> |
| <b>Allocations</b>                               | <p>Allocation has been avoided when possible and when not possible a mass allocation has been applied.</p> <p>The polluter pays and the modularity principles as well have been followed.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Geographical coverage<br/>And time period</b> | <p>Scope: Sweden*</p> <p>Data is collected from one production site Riksten, Sweden</p> <p>Data collected for the year 2023</p> <p>*Additional result for Estonia, Finland and Norway</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Background data source</b>                    | The databases Sphera 2023.2 and ecoinvent v.3.9.1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Software</b>                                  | Sphera LCA for experts (GaBi) 10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

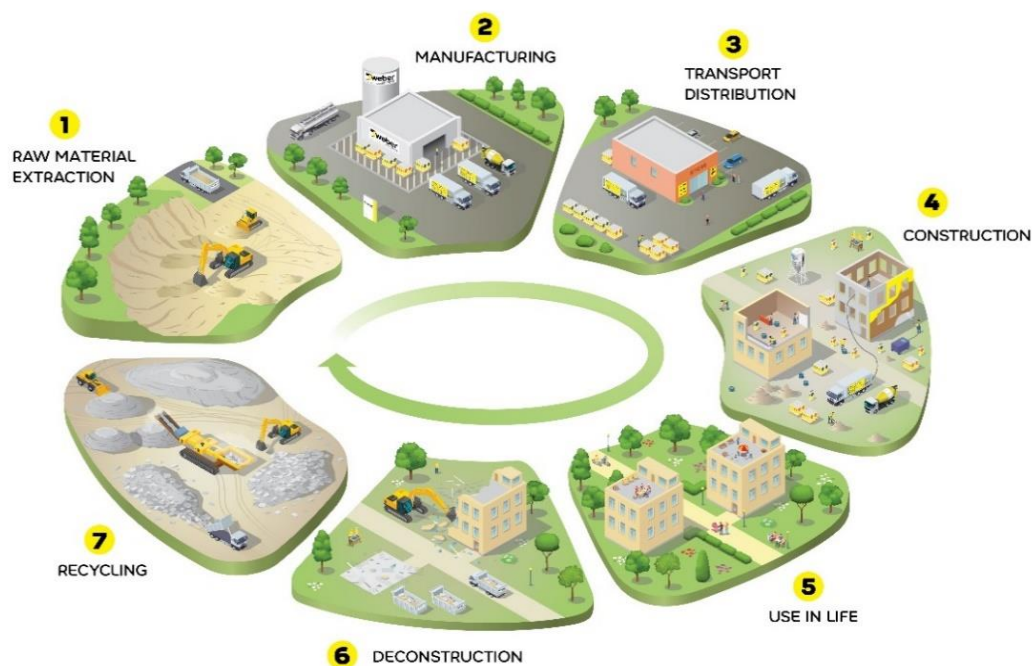
## LCA scope

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 <sup>1</sup> | > 6,8%              |           |               |                    |                                   |           |             |        |             |               |                        |                       |                            |           |                  |          |                                               |
| Variation products              | 0%                  |           |               |                    |                                   |           |             |        |             |               |                        |                       |                            |           |                  |          |                                               |
| Variation sites                 | 0%                  |           |               |                    |                                   |           |             |        |             |               |                        |                       |                            |           |                  |          |                                               |

\* The product is also sold to Estonia, Finland and Norway, see additional information for transport information.

## Life cycle stages



<sup>1</sup> For this study, specific data is considered as A2 transport, energy + water consumptions and wastes 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 to the manufacturing site. The modelling includes road, boat and/or train transportations.

### A3. Manufacturing

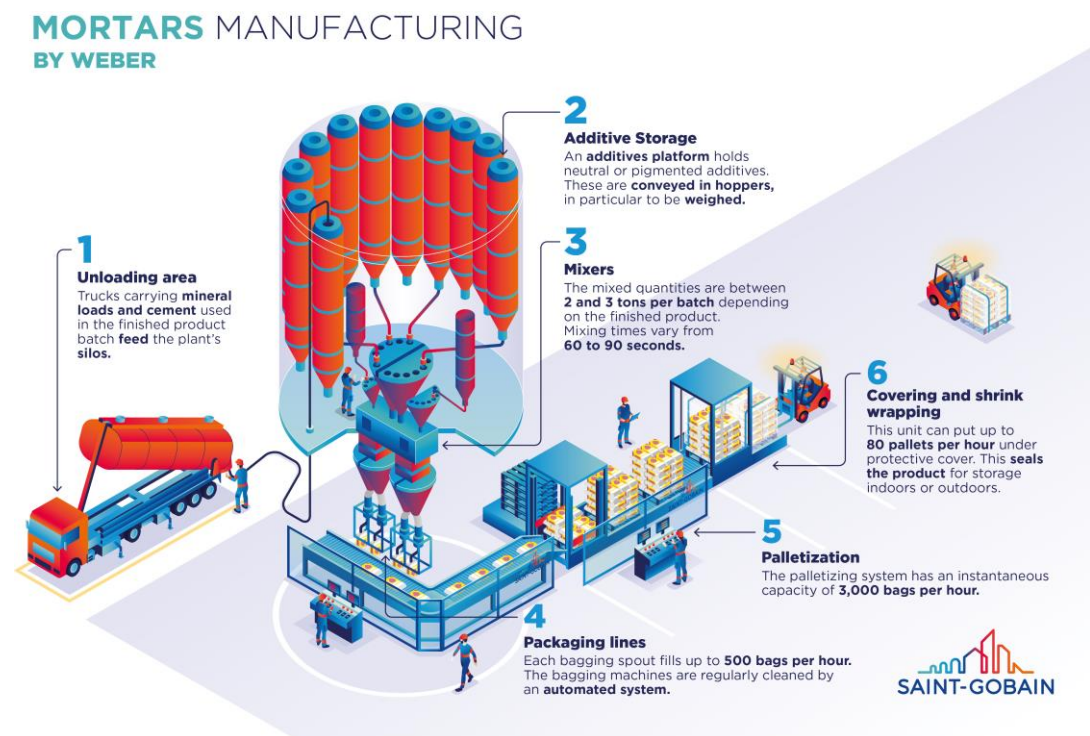
This module includes the manufacture of products. The processing of any waste arising from this stage is also included.

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                                                                       |
|------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| <b>Location</b>                                                                                            | Electricity purchased by Saint-Gobain Gobain Sweden AB                                    |
| <b>Share of electricity covered by Guarantee of Origin</b>                                                 | 100% of the electricity consumption is covered by the GO                                  |
| <b>Geographical representativeness description</b>                                                         | Split of electricity bought with Guarantee of Origin:<br>Hydro 100 %                      |
| <b>Reference year</b>                                                                                      | 2023<br><i>The GO will be prolonged to be valid at least to the validity of this EPD.</i> |
| <b>Type of dataset</b>                                                                                     | Cradle to gate from Sphera and ecoinvent databases                                        |
| <b>Source</b>                                                                                              | Guarantee of Origin: Sphera dataset (2023) and Entilios (Supplier of GO)                  |
| <b>CO<sub>2</sub> emission (kg CO<sub>2</sub> eq. / kWh)</b><br>(Based on Climate Change Fossil Indicator) | Guarantee of Origin: 0,006 kg of CO <sub>2</sub> 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                                                                                           |
|----------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| <b>Fuel type and consumption of vehicle or vehicle type used for transport e.g., long distance truck, boat, etc.</b> | Freight truck, maximum load weight of 27 t and consumption of 0,38 liters diesel per km.<br>Real 24 t payload |
| <b>Distance</b>                                                                                                      | 300 km by truck (Sweden)*                                                                                     |
| <b>Capacity utilization (including empty returns)</b>                                                                | 100% of the capacity in volume<br>62% of the capacity in weight<br>30% of empty returns                       |
| <b>Bulk density of transported products</b>                                                                          | 1299 kg/m <sup>3</sup>                                                                                        |

\*Result for transport to Estonia, Finland and Norway, see additional information.

## 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                                                                                                                                                                        | 0,14 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                                                                                                                                                                                                                                                     |
| Scrap rate                                                                                                                                                                       | 5% losses during mixing and installation<br>100% packaging                                                                                                                                                                                                                      |
| Wastage of materials on the building site before waste processing, generated by the product's installation (specified by type)                                                   | Product: 5%<br>Paper bag: 100%<br>LDPE: 100%<br>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 to landfill<br>Paper bag: 0,00325 kg, 50% landfill + 50% incineration w. energy recovery<br>LDPE: 0,00073 kg; 10% recycling + 90% Incineration<br>Wooden pallet: 0,023 kg reused, then EOL 0,00325 kg; 50% incineration with energy recovery and 50% recycling |
| Use of pallet                                                                                                                                                                    | 7 times before EOL                                                                                                                                                                                                                                                              |
| 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. Sorting of the waste for recycling is also considered here.

### 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 demolition and sorting                           | 0,045 MJ/kg diesel                                                                                                                                                                                |
| Collection process specified by type                        | 1 kg mortar + part of water from A5 collected with mixed construction waste and sorted for recycling.                                                                                             |
| 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 consuming of 0,38 liter per km.<br>Distance to landfill: 50 km<br>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.

The optional indicators are not included in this EPD.

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 Undervattensbetong, vinter produced at a single plant; Riksten, Sweden.

## Environmental Impacts

|                                                                                     |                                                                        | 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             |
|    | Climate Change (total) [kg CO <sub>2</sub> eq.]                        | 2,63E-01      | 2,03E-02           | 6,68E-02        | 0         | 0              | 0         | 0              | 0                | 0                         | 0                        | 4,38E-03                       | 3,64E-03     | 7,97E-05            | 1,64E-03    | 5,71E-04                                 |
|                                                                                     | Climate Change (fossil) [kg CO <sub>2</sub> eq.]                       | 3,04E-01      | 2,01E-02           | 2,22E-02        | 0         | 0              | 0         | 0              | 0                | 0                         | 0                        | 4,37E-03                       | 3,59E-03     | 0                   | 1,62E-03    | 2,82E-04                                 |
|                                                                                     | Climate Change (biogenic) [kg CO <sub>2</sub> eq.]                     | -4,04E-02     | 5,33E-05           | 4,45E-02        | 0         | 0              | 0         | 0              | 0                | 0                         | 0                        | 3,80E-06                       | 9,55E-06     | 7,97E-05            | 1,34E-05    | 2,66E-04                                 |
|                                                                                     | Climate Change (land use change) [kg CO <sub>2</sub> eq.]              | 1,23E-04      | 1,89E-04           | 2,07E-05        | 0         | 0              | 0         | 0              | 0                | 0                         | 0                        | 8,34E-08                       | 3,38E-05     | 0                   | 5,11E-06    | 2,27E-05                                 |
|    | Ozone depletion [kg CFC-11 eq.]                                        | 6,82E-09      | 1,79E-15           | 6,76E-11        | 0         | 0              | 0         | 0              | 0                | 0                         | 0                        | 3,37E-16                       | 3,36E-16     | 0                   | 4,19E-15    | 1,55E-12                                 |
|    | Acidification terrestrial and freshwater [Mole of H <sup>+</sup> eq.]  | 9,51E-04      | 2,31E-05           | 4,90E-05        | 0         | 0              | 0         | 0              | 0                | 0                         | 0                        | 6,89E-06                       | 4,18E-06     | 0                   | 1,17E-05    | 1,78E-05                                 |
|    | Eutrophication freshwater [kg P eq.]                                   | 9,97E-06      | 7,44E-08           | 4,56E-07        | 0         | 0              | 0         | 0              | 0                | 0                         | 0                        | 8,46E-10                       | 1,33E-08     | 0                   | 3,32E-09    | -1,83E-06                                |
|                                                                                     | Eutrophication marine [kg N eq.]                                       | 3,61E-04      | 7,88E-06           | 1,89E-05        | 0         | 0              | 0         | 0              | 0                | 0                         | 0                        | 2,38E-06                       | 1,43E-06     | 0                   | 3,02E-06    | 1,67E-05                                 |
|                                                                                     | Eutrophication terrestrial [Mole of N eq.]                             | 2,01E-03      | 9,31E-05           | 1,61E-04        | 0         | 0              | 0         | 0              | 0                | 0                         | 0                        | 2,63E-05                       | 1,69E-05     | 0                   | 3,32E-05    | 1,33E-04                                 |
|  | Photochemical ozone formation - human health [kg NMVOC eq.]            | 9,22E-04      | 2,00E-05           | 4,23E-05        | 0         | 0              | 0         | 0              | 0                | 0                         | 0                        | 7,21E-06                       | 3,63E-06     | 0                   | 9,10E-06    | 3,74E-05                                 |
|  | Resource use, mineral and metals [kg Sb eq.] <sup>2</sup>              | 2,22E-06      | 1,33E-09           | 1,02E-07        | 0         | 0              | 0         | 0              | 0                | 0                         | 0                        | 4,43E-11                       | 2,38E-10     | 0                   | 7,61E-11    | 1,24E-09                                 |
|                                                                                     | Resource use, energy carriers [MJ] <sup>2</sup>                        | 1,35E+00      | 2,78E-01           | 1,29E-01        | 0         | 0              | 0         | 0              | 0                | 0                         | 0                        | 5,83E-02                       | 4,96E-02     | 0                   | 2,19E-02    | -1,09E-02                                |
|  | Water deprivation potential [m <sup>3</sup> world equiv.] <sup>2</sup> | 2,76E+01      | 2,35E-04           | 8,91E-03        | 0         | 0              | 0         | 0              | 0                | 0                         | 0                        | 1,13E-05                       | 4,23E-05     | 0                   | 1,81E-04    | 3,31E-04                                 |

<sup>2</sup> 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

| Resources Use 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             |
|  Use of renewable primary energy (PERE) [MJ] <sup>3</sup>                                      | 7,73E-01      | 1,96E-02           | 6,74E-02        | 0         | 0              | 0         | 0              | 0                | 0                         | 0                        | 2,57E-04                       | 3,52E-03     | 0                   | 3,57E-03    | -1,06E-01                                |
|  Use of renewable primary energy resources used as raw materials (PERM) [MJ] <sup>3</sup>      | 3,18E-02      | 0                  | -4,05E-01       | 0         | 0              | 0         | 0              | 0                | 0                         | 0                        | 0                              | 0            | 0                   | 0           | 0                                        |
|  Total use of renewable primary energy resources (PERT) [MJ] <sup>3</sup>                      | 8,05E-01      | 1,96E-02           | -3,37E-01       | 0         | 0              | 0         | 0              | 0                | 0                         | 0                        | 2,57E-04                       | 3,52E-03     | 0                   | 3,57E-03    | -1,06E-01                                |
|  Use of non-renewable primary energy (PENRE) [MJ] <sup>3</sup>                                 | 9,04E-01      | 2,78E-01           | 1,15E-01        | 0         | 0              | 0         | 0              | 0                | 0                         | 0                        | 5,84E-02                       | 4,98E-02     | 0                   | 2,19E-02    | -1,09E-02                                |
|  Use of Non-renewable primary energy resources used as raw materials (PENRM) [MJ] <sup>3</sup> | 4,49E-01      | 0                  | 6,34E-03        | 0         | 0              | 0         | 0              | 0                | 0                         | 0                        | 0                              | 0            | -1,09E-02           | 0           | 0                                        |
|  Total use of non-renewable primary energy resources (PENRT) [MJ] <sup>3</sup>                | 1,35E+00      | 2,78E-01           | 1,22E-01        | 0         | 0              | 0         | 0              | 0                | 0                         | 0                        | 5,84E-02                       | 4,98E-02     | -1,09E-02           | 2,19E-02    | -1,09E-02                                |
|  Input of secondary material (SM) [kg]                                                       | 6,27E-04      | 0                  | 0               | 0         | 0              | 0         | 0              | 0                | 0                         | 0                        | 0                              | 0            | 0                   | 0           | 0                                        |
|  Use of renewable secondary fuels (RSF) [MJ]                                                 | 1,57E-01      | 0                  | 0               | 0         | 0              | 0         | 0              | 0                | 0                         | 0                        | 0                              | 0            | 0                   | 0           | 0                                        |
|  Use of non-renewable secondary fuels (NRSF) [MJ]                                            | 9,50E-01      | 0                  | 0               | 0         | 0              | 0         | 0              | 0                | 0                         | 0                        | 0                              | 0            | 0                   | 0           | 0                                        |
|  Use of net fresh water (FW) [m <sup>3</sup> ]                                               | 6,13E-04      | 2,17E-05           | 2,18E-04        | 0         | 0              | 0         | 0              | 0                | 0                         | 0                        | 4,18E-07                       | 3,88E-06     | 0                   | 5,54E-06    | 3,50E-06                                 |

<sup>3</sup> 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]      | 3,03E-05      | 1,03E-12           | 5,36E-08        | 0         | 0              | 0         | 0              | 0                | 0              | 0                    | 1,68E-13                       | 1,81E-13     | 0                   | 4,77E-13    | 2,56E-07                                 |
|    | Non-hazardous waste disposed (NHWD) [kg] | 5,94E-02      | 4,01E-05           | 5,99E-02        | 0         | 0              | 0         | 0              | 0                | 0              | 0                    | 1,21E-05                       | 7,22E-06     | 0                   | 1,10E-01    | -4,10E-02                                |
|    | Radioactive waste disposed (RWD) [kg]    | 4,85E-06      | 3,60E-07           | 4,66E-06        | 0         | 0              | 0         | 0              | 0                | 0              | 0                    | 6,74E-08                       | 6,74E-08     | 0                   | 2,50E-07    | -2,14E-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]       | 2,27E-04      | 0                  | 1,79E-03        | 0         | 0              | 0         | 0              | 0                | 0              | 0                    | 0                              | 0            | 9,86E-01            | 0           | 0                                        |
|  | Material for Energy Recovery (MER) [kg]  | 6,52E-06      | 0                  | 0               | 0         | 0              | 0         | 0              | 0                | 0              | 0                    | 0                              | 0            | 0                   | 0           | 0                                        |
|  | Exported electrical energy (EEE) [MJ]    | 1,45E-06      | 0                  | 0               | 0         | 0              | 0         | 0              | 0                | 0              | 0                    | 0                              | 0            | 0                   | 0           | 0                                        |
|  | Exported thermal energy (EET) [MJ]       | 2,19E-05      | 0                  | 3,39E-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 <sub>2</sub> eq.] <sup>4</sup> | 3,09E-01      | 2,03E-02           | 2,23E-02        | 0         | 0              | 0         | 0              | 0                | 0                         | 0                        | 4,37E-03                       | 3,63E-03     | 0                   | 1,63E-03    | 3,05E-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] | 1,22E-02        |

Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO<sub>2</sub>.

Biogenic carbon content in the product has not been declared as it is less than 5% of the product weight.

<sup>4</sup> 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

### Indoor Environment

The product has no indoor environmental label.

### Transport to other countries

The transport to building site (A4) in the main result is based on Sweden.

Transport to other countries has been calculated, and a full set of indicators for A4 can be found below. The following transport assumptions has been made:

| Country | Truck (km) | Ship (km) | Rail (km) |
|---------|------------|-----------|-----------|
| Estonia | 638        | 275       | 0         |
| Finland | 480        | 125       | 0         |
| Norway  | 797        | 0         | 0         |

|                                                                           | Estonia<br>(A4) | Finland<br>(A4) | Norway<br>(A4) |
|---------------------------------------------------------------------------|-----------------|-----------------|----------------|
| <b>Environmental indicators</b>                                           |                 |                 |                |
| Climate Change [kg CO <sub>2</sub> eq.]                                   | 4,68E-02        | 3,41E-02        | 5,40E-02       |
| Climate Change (fossil) [kg CO <sub>2</sub> eq.]                          | 4,63E-02        | 3,38E-02        | 5,34E-02       |
| Climate Change (biogenic) [kg CO <sub>2</sub> eq.]                        | 1,16E-04        | 8,65E-05        | 1,42E-04       |
| Climate Change (land use change) [kg CO <sub>2</sub> eq.]                 | 4,02E-04        | 3,03E-04        | 5,02E-04       |
| Ozone depletion [kg CFC-11 eq.]                                           | 4,04E-15        | 2,97E-15        | 4,75E-15       |
| Acidification terrestrial and freshwater [Mole of H <sup>+</sup> eq.]     | 1,73E-04        | 9,31E-05        | 6,13E-05       |
| Eutrophication freshwater [kg P eq.]                                      | 1,59E-07        | 1,19E-07        | 1,98E-07       |
| Eutrophication marine [kg N eq.]                                          | 4,58E-05        | 2,58E-05        | 2,09E-05       |
| Eutrophication terrestrial [Mole of N eq.]                                | 5,16E-04        | 2,94E-04        | 2,47E-04       |
| Photochemical ozone formation - human health [kg NMVOC eq.]               | 1,25E-04        | 6,97E-05        | 5,32E-05       |
| Resource use, mineral and metals [kg Sb eq.]                              | 2,85E-09        | 2,14E-09        | 3,52E-09       |
| Resource use, energy carriers [MJ]                                        | 6,33E-01        | 4,64E-01        | 7,37E-01       |
| Water deprivation potential [m <sup>3</sup> world equiv.]                 | 5,06E-04        | 3,79E-04        | 6,25E-04       |
| <b>Resource Use Indicators</b>                                            |                 |                 |                |
| Use of renewable primary energy (PERE) [MJ]                               | 4,20E-02        | 3,15E-02        | 5,22E-02       |
| Primary energy resources used as raw materials (PERM) [MJ]                | 0               | 0,00E+00        | 0              |
| Total use of renewable primary energy resources (PERT) [MJ]               | 4,20E-02        | 3,15E-02        | 5,22E-02       |
| Use of non-renewable primary energy (PENRE) [MJ]                          | 6,35E-01        | 4,65E-01        | 7,39E-01       |
| Non-renewable primary energy resources used as raw materials (PENRM) [MJ] | 0               | 0,00E+00        | 0              |
| Total use of non-renewable primary energy resources (PENRT) [MJ]          | 6,35E-01        | 4,65E-01        | 7,39E-01       |
| Input of secondary material (SM) [kg]                                     | 0               | 0,00E+00        | 0              |
| Use of renewable secondary fuels (RSF) [MJ]                               | 0               | 0,00E+00        | 0              |
| Use of non-renewable secondary fuels (NRSF) [MJ]                          | 0               | 0,00E+00        | 0              |
| Use of net fresh water (FW) [m <sup>3</sup> ]                             | 4,63E-05        | 3,48E-05        | 5,75E-05       |
| <b>Waste category &amp; Output flows</b>                                  |                 |                 |                |
| Hazardous waste disposed (HWD) [kg]                                       | 2,33E-12        | 1,71E-12        | 2,74E-12       |
| Non-hazardous waste disposed (NHWD) [kg]                                  | 8,92E-05        | 6,60E-05        | 1,07E-04       |
| Radioactive waste disposed (RWD) [kg]                                     | 8,16E-07        | 5,99E-07        | 9,56E-07       |
| Components for re-use (CRU) [kg]                                          | 0               | 0               | 0              |
| Materials for Recycling (MFR) [kg]                                        | 0               | 0               | 0              |
| Material for Energy Recovery (MER) [kg]                                   | 0               | 0               | 0              |
| Exported electrical energy (EEE) [MJ]                                     | 0               | 0               | 0              |
| Exported thermal energy (EET) [MJ]                                        | 0               | 0               | 0              |
| <b>Additional Indicator</b>                                               |                 |                 |                |
| GWP-GHG / GWP-IOBC [kg CO <sub>2</sub> eq.]                               | 4,67E-02        | 3,41E-02        | 5,39E-02       |

## 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
7. EPD International (2021) General Programme Instructions for the International EPD® System. Version 4.0. [www.environdec.com](http://www.environdec.com).
8. EN 15978 Sustainability of construction works - Assessment of environmental performance of buildings - Calculation method
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