



## ENVIRONMENTAL PRODUCT DECLARATION

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

## weber S 30 Cement mortar C30/37-4

Version 1

Date of publication: 2025/01/08

Validity: 5 years

Valid until: 2030/01/08

Scope of the EPD®: Finland and  
Baltics



THE INTERNATIONAL EPD® SYSTEM

The International EPD® System:

Program operator: EPD International AB

Registration number: EPD-IES-0005557

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## Programme information

**PROGRAMME:** 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

**Complementary PCR:** C-PCR-003 Concrete and concrete elements, version 2024-04-30

**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:** Anni Oviir, LCA Support - Rangi Maja OÜ

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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 may not be comparable. For two EPDs to be comparable, they shall be based on the same PCR (including the same version number up to the first two digits) or be based on fully aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical DU/FU); 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 characterization factors); have equivalent content declarations; and be valid at the time of Comparison. For further information about comparability, see EN 15804:2012+A2:2019/AC:2021 and ISO 14025:2006.

## Product information

**Product name:** weber S 30 Cement mortar C30/37-4

**Declared unit:** 1 kg

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

**GTIN Number(s):** 6415990410366 (25 kg), 6415990410359 (1000 kg)

## Company information

**Manufacturer:** Saint-Gobain Finland Oy, Strömberginkuja 2 FI-00380 Helsinki, Finland

**Website:** [www.saint-gobain.fi](http://www.saint-gobain.fi)

**Production plant(s):** weber Ojakkala and Oulu, Finland

**Management system - related certifications:** ISO 9001 (Certificate No.: EUFI29- 23001898-S1/EN), ISO 14001 (Certificate No.: EUFI29- 23001898-S2/EN)

## LCA & EPD Information

**Owner of the declaration:** Saint-Gobain Finland Oy

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**Type of EPD:** Cradle to gate with options, modules C1–C4, module D and with optional modules A4-A5, B1-B7

**Geographical scope of the EPD®:** Finland and the Baltic 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 S 30 Cement mortar C30/37-4.

weber S 30 Cement mortar C30/37-4 is frost-resistant R3-class easy-to-use casting mortar for various smaller concrete works. The product meets the requirements of standard SFS-EN 1504-3 class R3, concrete structure repair and reinforcement methods 3.1 (manual mortar patching) or 3.2 (concreting by casting). Applications include small surface castings and corridor tile castings, grouting of concrete elements, repairs of casting defects and concrete structures, as well as smaller castings requiring weather-resistant mortar of strength class C30/37-4.

All technical characteristics and properties for the product can be found on the website: [www.fi.weber/muuraus-ja-rakennelaastit/kuivabetonit-ja-laastit/weber-s-30-sementtilaasti-c3037-4](http://www.fi.weber/muuraus-ja-rakennelaastit/kuivabetonit-ja-laastit/weber-s-30-sementtilaasti-c3037-4)

This EPD applies for one specific product produced in two production plants, and is a weighted average based on production volume.

## Technical data/physical characteristics:

| Technical data / physical characteristics |                                                    | Classification/<br>standard |
|-------------------------------------------|----------------------------------------------------|-----------------------------|
| Material consumption                      | approx. 20 kg/m <sup>2</sup> /10mm layer thickness |                             |
| Compressive strength class                | C30/37-4                                           |                             |
| Recommended water content                 | 12-13 L / 100 kg dry mortar                        |                             |
| Operating time                            | approx. 1 h                                        |                             |
| Adhesion strength 28 days                 | > 1,5 MPa                                          | EN 1542                     |
| Compressive strength 28 days              | approx. 40 MPa                                     | EN 12190                    |
| Unstrained shrinkage 28 days              | 0,7 mm/m                                           | EN 12617-4                  |
| Fire class                                | A1                                                 | EN 13501-1                  |
| Frost resistance                          | Yes (100 cycle freeze-thaw test),<br>> 1,5 MPa     | SFS 5447<br>SFS-EN 13687-4  |
| Air content                               | 8-12%                                              |                             |
| Contents of chlorides                     | < 0,05%                                            | SFS-EN 1015-17              |
| Density                                   | approx. 2050 kg/m <sup>3</sup>                     |                             |

## 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             | 10 - 25%   | 0%                                | 0 % and 0 kg                              |
| Filler / aggregate | 75 - 100%  | 0%                                | 0 % and 0 kg                              |
| Additives          | 0 – 5%     | 0%                                | 0 % and 0 kg                              |
| Sum                | 100%       | 0%                                | 0 % and 0 kg                              |

| Packaging materials* | Weight (kg) | Weight-% (vs the product) | Post-consumer material weight (%) | Biogenic material, weight (kg C/ DU) |
|----------------------|-------------|---------------------------|-----------------------------------|--------------------------------------|
| Paper - PE bag       | 0,003 kg    | 0,3 %                     | 0%                                | 0,001 kg                             |
| LDPE film            | <0,001 kg   | <0,1 %                    | 11%                               | 0 kg                                 |
| Wooden pallet        | 0,02 kg     | 2 %                       | 0%                                | 0,01 kg                              |

\*) Most representative packaging is declared.

## 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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Type of EPD                           | Cradle to gate with options, modules C1–C4, module D and with optional modules A4-A5, B1-B7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Declared unit                         | 1 kg of product                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| System boundaries                     | Mandatory stages = A1-A3, C1-C4 and D<br>Optional stages = A4-A5, B1-B7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Reference service life (RSL)          | The Reference Service Life (RSL) of the 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.<br>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.<br>Flows related to human activities such as employee transport are excluded.<br>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.<br>The polluter pays and the modularity principles as well have been followed.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Geographical coverage and time period | Scope: Finland and Baltics<br>Data is collected from two production sites located in Finland<br>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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

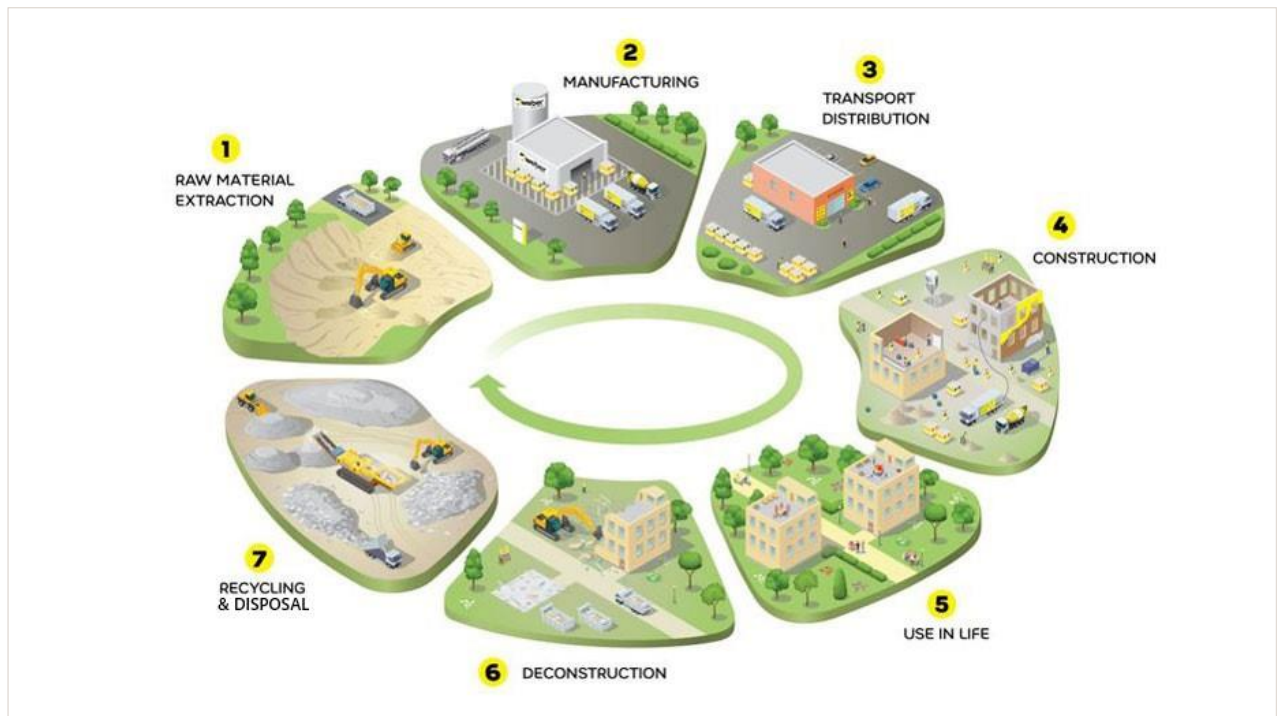


## LCA scope

System boundaries (X=included. ND=not declared)

|                                 | Product stage       |           |               | Construction stage |                                   | Use stage  |             |            |             |               |                        |                       | End of life stage          |               |                  |               | Benefits & 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       | FIN           | FIN & Baltics      | EU-27                             | FIN & Balt | FIN & Balt  | FIN & Balt | FIN & Balt  | FIN & Balt    | FIN & Balt             | FIN & Balt            | FIN & Baltics              | FIN & Baltics | FIN & Baltics    | FIN & Baltics | FIN & Baltics                               |
| Specific data used <sup>1</sup> | >62% GWP- GHG       |           |               |                    |                                   |            |             |            |             |               |                        |                       |                            |               |                  |               |                                             |
| Variation products              | 0%                  |           |               |                    |                                   |            |             |            |             |               |                        |                       |                            |               |                  |               |                                             |
| Variation sites                 | -15/+85%            |           |               |                    |                                   |            |             |            |             |               |                        |                       |                            |               |                  |               |                                             |

## Life cycle stages



<sup>1</sup> For this study, specific data is considered as energy and water consumptions, and wastes related to the manufacturing process, transportation as well as raw materials with EPD. The percentage of specific data is assumed to be larger than 62%, but it cannot be proved since one or several EPDs that are used as data sources lack information on the percentage of specific data used.

## A1-A3. Product stage

The product stage of the product is subdivided into 3 modules:

### A1. Raw materials supply

This module includes the extraction and transformation of raw materials.

### A2. Transport to the manufacturer

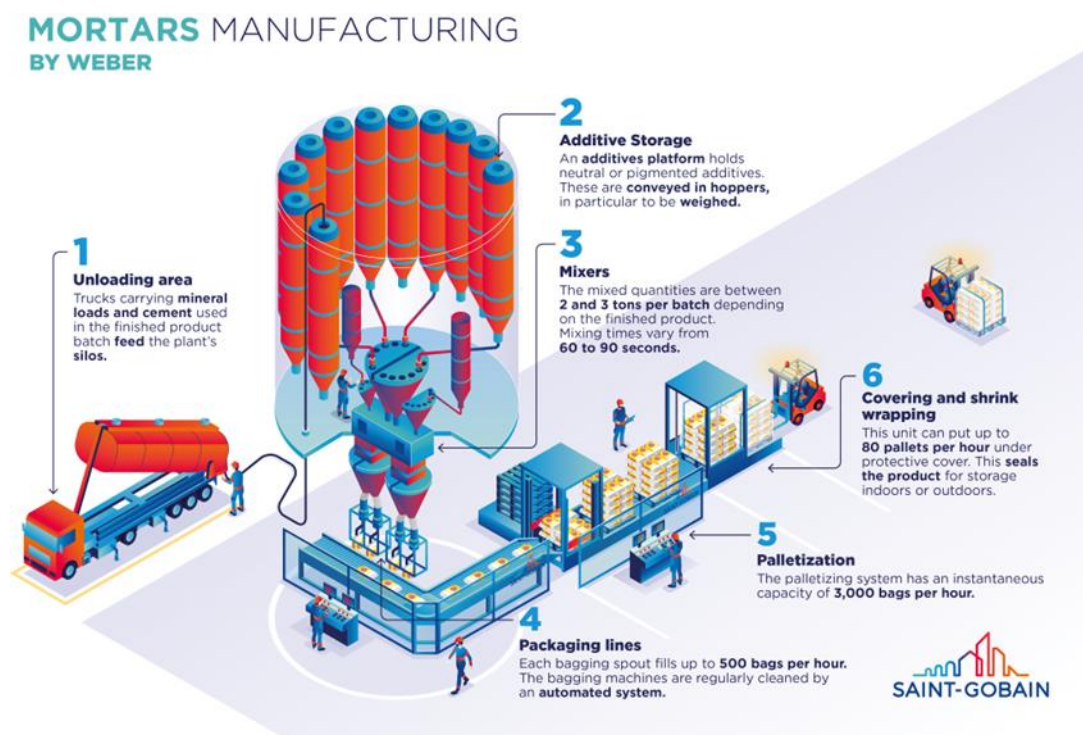
This module includes the transportation of raw materials to the manufacturing site. The modelling includes road and sea transportations.

### A3. Manufacturing

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

The manufacturing activities include drying, storing, mixing, packing and internal transportation.

## Manufacturing process flow diagram



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 sites, leaving 0% to be covered by Finnish national grid mix.

## Electricity information

The plants based in Finland use the following electricity description.

| Parameter                                           | Value / description                                      |
|-----------------------------------------------------|----------------------------------------------------------|
| Location                                            | Electricity purchased by Saint-Gobain Finland Oy         |
| Share of electricity covered by Guarantee of Origin | 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>                                                                                      | For GO: 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 Entelios                                           |
| <b>CO<sub>2</sub> emission (kg CO<sub>2</sub> eq. / kWh)</b><br>(Based on Climate Change Fossil Indicator) | Guarantee of Origin: 0,00617 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 factory 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. |
| <b>Distance</b>                                                                                                      | 107 km by truck                                                                          |
| <b>Capacity utilization (including empty returns)</b>                                                                | 90% of the capacity in weight<br>30% of empty returns                                    |

### A5. Installation in the building:

This module includes the parameters for installing the product at the building site. The product is mixed with water with mixer requiring electricity. The product can be applied manually, thus does not require additional energy. Other energy use, ancillary materials and emissions are not considered.

| Parameter                                                                                                                                                          | Value / Description                                                                                  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
| <b>Ancillary materials for installation (specified by materials)</b>                                                                                               | None                                                                                                 |
| <b>Water use</b>                                                                                                                                                   | 0,00013 m <sup>3</sup> / kg of product                                                               |
| <b>Other resource use</b>                                                                                                                                          | None                                                                                                 |
| <b>Energy use (regional mix) during the installation process</b>                                                                                                   | 0,00396 MJ/kg electricity (mixing)                                                                   |
| <b>Wastage of materials on the building site before waste processing, generated by the product's installation (specified by type)</b>                              | 5% for product<br>100% for packaging                                                                 |
| <b>Output materials (specified by type) as results of waste processing at the building site e.g., of collection for recycling, for energy recovering, disposal</b> | Product: 100% disposed<br>All packaging: 53% to recycling, 41% to landfill, 6% to recovery to energy |
| <b>Reuse of pallet</b>                                                                                                                                             | 7 times before end-of-life                                                                           |
| <b>Distance to waste treatment facilities</b>                                                                                                                      | 50 km to landfill by truck<br>50 km to recovery by truck                                             |



## B1-B7. Use stage

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 working. The product covered by this EPD does not require any maintenance. 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 construction's lifetime. For this reason, no environmental loads are attributed to any of the modules between B1 and B7.

## C1-C4. End of Life Stage

This stage includes the next modules:

### C1. Deconstruction, demolition

The de-construction of the product takes part in the demolition of the entire construction. The energy considered can be seen in table below.

### 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. Not applicable in this study.

### C4. Disposal

The product is conservatively considered fully landfilled at the end of life.

## 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 of product and part of water mixed in at installation collected with mixed construction waste                                             |
| Recovery system specified by type                           | none                                                                                                                                           |
| Disposal specified by type                                  | 1 kg of product and part of water to landfill                                                                                                  |
| Assumptions for scenario development (e.g., transportation) | The waste going to landfill is transported by truck with 27 t payload, consuming 0,38 litres of diesel per km.<br>Distance of transport: 50 km |

## D. Reuse/recovery/recycling potential

The environmental benefits and loads from recyclable materials or energy recovery are considered as follows:

- Inputs of secondary materials: recycled raw materials for product and packaging, if relevant
- Outputs of secondary materials: packaging sent to recycling,
- Exported energy: packaging sent to incineration with energy recovery.

## 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.

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 product.

## 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.]                        | 1,50E-01      | 7,20E-03           | 4,78E-02        | 0         | 0              | 0         | 0              | 0                | 0                         | 0                        | 4,26E-03                       | 3,82E-03     | 0                   | 1,60E-02    | -6,63E-04                                |
|                                                                                     | Climate Change (fossil) [kg CO <sub>2</sub> eq.]                       | 1,85E-01      | 7,11E-03           | 1,32E-02        | 0         | 0              | 0         | 0              | 0                | 0                         | 0                        | 4,26E-03                       | 3,77E-03     | 0                   | 1,58E-02    | -9,48E-04                                |
|                                                                                     | Climate Change (biogenic) [kg CO <sub>2</sub> eq.]                     | -3,54E-02     | 1,88E-05           | 3,46E-02        | 0         | 0              | 0         | 0              | 0                | 0                         | 0                        | 3,69E-06                       | 1,03E-05     | 0                   | 1,13E-04    | 2,54E-04                                 |
|                                                                                     | Climate Change (land use change) [kg CO <sub>2</sub> eq.]              | 7,62E-05      | 6,69E-05           | 1,19E-05        | 0         | 0              | 0         | 0              | 0                | 0                         | 0                        | 8,12E-08                       | 3,53E-05     | 0                   | 4,98E-05    | 2,84E-05                                 |
|    | Ozone depletion [kg CFC-11 eq.]                                        | 3,75E-09      | 6,32E-16           | 1,19E-11        | 0         | 0              | 0         | 0              | 0                | 0                         | 0                        | 3,28E-16                       | 4,97E-16     | 0                   | 4,08E-14    | -2,98E-11                                |
|    | Acidification terrestrial and freshwater [Mole of H <sup>+</sup> eq.]  | 5,30E-04      | 8,17E-06           | 3,03E-05        | 0         | 0              | 0         | 0              | 0                | 0                         | 0                        | 6,72E-06                       | 4,86E-06     | 0                   | 1,14E-04    | -8,31E-06                                |
|    | Eutrophication freshwater [kg P eq.]                                   | 3,47E-06      | 2,63E-08           | 1,25E-07        | 0         | 0              | 0         | 0              | 0                | 0                         | 0                        | 8,25E-10                       | 1,40E-08     | 0                   | 3,23E-08    | -1,69E-06                                |
|                                                                                     | Eutrophication marine [kg N eq.]                                       | 1,64E-04      | 2,79E-06           | 1,19E-05        | 0         | 0              | 0         | 0              | 0                | 0                         | 0                        | 2,32E-06                       | 1,70E-06     | 0                   | 2,94E-05    | 2,15E-06                                 |
|                                                                                     | Eutrophication terrestrial [Mole of N eq.]                             | 2,03E-03      | 3,29E-05           | 1,02E-04        | 0         | 0              | 0         | 0              | 0                | 0                         | 0                        | 2,56E-05                       | 1,99E-05     | 0                   | 3,23E-04    | -2,08E-05                                |
|  | Photochemical ozone formation - human health [kg NMVOC eq.]            | 5,17E-04      | 7,09E-06           | 2,73E-05        | 0         | 0              | 0         | 0              | 0                | 0                         | 0                        | 7,03E-06                       | 4,26E-06     | 0                   | 8,87E-05    | -9,24E-06                                |
|  | Resource use, mineral and metals [kg Sb eq.] <sup>2</sup>              | 3,02E-07      | 4,69E-10           | 4,64E-09        | 0         | 0              | 0         | 0              | 0                | 0                         | 0                        | 4,31E-11                       | 2,53E-10     | 0                   | 7,42E-10    | 6,43E-11                                 |
|                                                                                     | Resource use, energy carriers [MJ] <sup>2</sup>                        | 1,16E+00      | 9,81E-02           | 9,51E-02        | 0         | 0              | 0         | 0              | 0                | 0                         | 0                        | 5,67E-02                       | 5,20E-02     | 0                   | 2,13E-01    | -2,24E-02                                |
|  | Water deprivation potential [m <sup>3</sup> world equiv.] <sup>2</sup> | 1,50E+01      | 8,33E-05           | 7,54E-03        | 0         | 0              | 0         | 0              | 0                | 0                         | 0                        | 1,10E-05                       | 4,61E-05     | 0                   | 1,76E-03    | 3,71E-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>                                 | 6,18E-01      | 6,95E-03           | 4,82E-02        | 0         | 0              | 0         | 0              | 0                | 0                         | 0                        | 2,50E-04                       | 3,78E-03     | 0                   | 3,48E-02    | -8,26E-02                                |
|  Use of renewable primary energy resources used as raw materials (PERM) [MJ] <sup>3</sup> | 3,69E-02      | 0                  | -3,07E-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>                 | 6,55E-01      | 6,95E-03           | -2,58E-01       | 0         | 0              | 0         | 0              | 0                | 0                         | 0                        | 2,50E-04                       | 3,78E-03     | 0                   | 3,48E-02    | -8,26E-02                                |
|  Use of non-renewable primary energy (PENRE) [MJ] <sup>3</sup>                            | 7,90E-01      | 9,82E-02           | 8,07E-02        | 0         | 0              | 0         | 0              | 0                | 0                         | 0                        | 5,69E-02                       | 5,22E-02     | 0                   | 2,14E-01    | -2,24E-02                                |
|  Non-renewable primary energy resources used as raw materials (PENRM) [MJ] <sup>3</sup>   | 3,77E-01      | 0                  | 5,98E-03        | 0         | 0              | 0         | 0              | 0                | 0                         | 0                        | 0                              | 0            | 0                   | 0           | 0                                        |
|  Total use of non-renewable primary energy resources (PENRT) [MJ] <sup>3</sup>           | 1,17E+00      | 9,82E-02           | 8,68E-02        | 0         | 0              | 0         | 0              | 0                | 0                         | 0                        | 5,69E-02                       | 5,22E-02     | 0                   | 2,14E-01    | -2,23E-02                                |
|  Input of secondary material (SM) [kg]                                                  | 5,90E-02      | 0                  | 1,77E-06        | 0         | 0              | 0         | 0              | 0                | 0                         | 0                        | 0                              | 0            | 0                   | 0           | 0                                        |
|  Use of renewable secondary fuels (RSF) [MJ]                                            | 7,73E-02      | 0                  | 0               | 0         | 0              | 0         | 0              | 0                | 0                         | 0                        | 0                              | 0            | 0                   | 0           | 0                                        |
|  Use of non-renewable secondary fuels (NRSF) [MJ]                                       | 4,19E-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> ]                                          | 2,77E-04      | 7,66E-06           | 1,83E-04        | 0         | 0              | 0         | 0              | 0                | 0                         | 0                        | 4,07E-07                       | 4,14E-06     | 0                   | 5,39E-05    | 8,64E-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]      | 4,46E-05      | 3,64E-13           | 7,62E-07        | 0         | 0              | 0         | 0              | 0                | 0              | 0                    | 1,64E-13                       | 1,62E-13     | 0                   | 4,65E-12    | -5,47E-08                                |
|    | Non-hazardous waste disposed (NHWD) [kg] | 4,43E-02      | 1,42E-05           | 5,87E-02        | 0         | 0              | 0         | 0              | 0                | 0              | 0                    | 1,18E-05                       | 7,97E-06     | 0                   | 1,07E+00    | -9,31E-05                                |
|    | Radioactive waste disposed (RWD) [kg]    | 4,43E-06      | 1,27E-07           | 3,20E-06        | 0         | 0              | 0         | 0              | 0                | 0              | 0                    | 6,57E-08                       | 9,78E-08     | 0                   | 2,43E-06    | -3,63E-08                                |
|    | Components for re-use (CRU) [kg]         | 0             | 0                  | 1,84E-02        | 0         | 0              | 0         | 0              | 0                | 0              | 0                    | 0                              | 0            | 0                   | 0           | 0                                        |
|   | Materials for Recycling (MFR) [kg]       | 9,96E-02      | 0                  | 6,53E-03        | 0         | 0              | 0         | 0              | 0                | 0              | 0                    | 0                              | 0            | 0                   | 0           | 0                                        |
|  | Material for Energy Recovery (MER) [kg]  | 1,61E-06      | 0                  | 0               | 0         | 0              | 0         | 0              | 0                | 0              | 0                    | 0                              | 0            | 0                   | 0           | 0                                        |
|  | Exported electrical energy (EEE) [MJ]    | 2,00E-03      | 0                  | 0               | 0         | 0              | 0         | 0              | 0                | 0              | 0                    | 0                              | 0            | 0                   | 0           | 0                                        |
|  | Exported thermal energy (EET) [MJ]       | 1,07E-06      | 0                  | 1,71E-02        | 0         | 0              | 0         | 0              | 0                | 0              | 0                    | 0                              | 0            | 0                   | 0           | 0                                        |



## Supplementary indicator for climate impact (according to PCR)

|                                                                                   |                                                          | 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> | 1,85E-01      | 7,18E-03           | 1,33E-02        | 0      | 0              | 0         | 0              | 0                | 0                         | 0                        | 4,26E-03                       | 3,81E-03     | 0                   | 1,58E-02    | -9,19E-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] | 1,04E-02        |

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

The packaging contains biogenic carbon due to wooden pallet and paper in bag.

<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:

### Transport to other countries

The transport to building site (A4) in the main result is based on Finland. For transport to other countries per declared unit, additional sets of results are provided below. They are based on the following data:

| Country   | Truck (km) | Ship (km) |
|-----------|------------|-----------|
| Estonia   | 100        | 90        |
| Latvia    | 414        | 90        |
| Lithuania | 700        | 90        |

|                                                                                        | ESTONIA      | LATVIA       | LITHUANIA    |
|----------------------------------------------------------------------------------------|--------------|--------------|--------------|
|                                                                                        | A4 Transport | A4 Transport | A4 Transport |
| Climate Change [kg CO <sub>2</sub> eq.]                                                | 7,89E-03     | 2,90E-02     | 4,83E-02     |
| Climate Change (fossil) [kg CO <sub>2</sub> eq.]                                       | 7,80E-03     | 2,87E-02     | 4,77E-02     |
| Climate Change (biogenic) [kg CO <sub>2</sub> eq.]                                     | 1,86E-05     | 7,39E-05     | 1,24E-04     |
| Climate Change (land use change) [kg CO <sub>2</sub> eq.]                              | 6,26E-05     | 2,59E-04     | 4,38E-04     |
| Ozone depletion [kg CFC-11 eq.]                                                        | 6,70E-16     | 2,53E-15     | 4,22E-15     |
| Acidification terrestrial and freshwater [Mole of H <sup>+</sup> eq.]                  | 4,79E-05     | 7,19E-05     | 9,37E-05     |
| Eutrophication freshwater [kg P eq.]                                                   | 2,49E-08     | 1,02E-07     | 1,73E-07     |
| Eutrophication marine [kg N eq.]                                                       | 1,21E-05     | 2,03E-05     | 2,77E-05     |
| Eutrophication terrestrial [Mole of N eq.]                                             | 1,34E-04     | 2,31E-04     | 3,19E-04     |
| Photochemical ozone formation - human health [kg NMVOC eq.]                            | 3,36E-05     | 5,44E-05     | 7,34E-05     |
| Resource use, mineral and metals [kg Sb eq.]                                           | 4,50E-10     | 1,83E-09     | 3,08E-09     |
| Resource use, energy carriers [MJ]                                                     | 1,06E-01     | 3,95E-01     | 6,58E-01     |
| Water deprivation potential [m <sup>3</sup> world equiv.]                              | 7,98E-05     | 3,25E-04     | 5,47E-04     |
| Use of renewable primary energy (PERE) [MJ]                                            | 6,57E-03     | 2,70E-02     | 4,56E-02     |
| Primary energy resources used as raw materials (PERM) [MJ]                             | 0            | 0            | 0            |
| Total use of renewable primary energy resources (PERT) [MJ]                            | 6,57E-03     | 2,70E-02     | 4,56E-02     |
| Use of non-renewable primary energy (PENRE) [MJ]                                       | 1,06E-01     | 3,96E-01     | 6,59E-01     |
| Non-renewable primary energy resources used as raw materials (PENRM) [MJ] <sup>2</sup> | 0            | 0            | 0            |
| Total use of non-renewable primary energy resources (PENRT) [MJ]                       | 1,06E-01     | 3,96E-01     | 6,59E-01     |
| Input of secondary material (SM) [kg]                                                  | 0            | 0            | 0            |
| Use of renewable secondary fuels (RSF) [MJ]                                            | 0            | 0            | 0            |
| Use of non-renewable secondary fuels (NRSF) [MJ]                                       | 0            | 0            | 0            |
| Use of net fresh water (FW) [m <sup>3</sup> ]                                          | 7,25E-06     | 2,98E-05     | 5,03E-05     |
| Hazardous waste disposed (HWD) [kg]                                                    | 3,85E-13     | 1,46E-12     | 2,43E-12     |
| Non-hazardous waste disposed (NHWD) [kg]                                               | 1,46E-05     | 5,63E-05     | 9,43E-05     |
| Radioactive waste disposed (RWD) [kg]                                                  | 1,36E-07     | 5,10E-07     | 8,51E-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            |
| GWP-GHG / GWP-IOBC [kg CO <sub>2</sub> eq.]                                            | 7,87E-03     | 2,90E-02     | 4,82E-02     |

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