

# Environmental Product Declaration



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

## **Altech Rectangular Ventilation Ducts – Carbon Low**

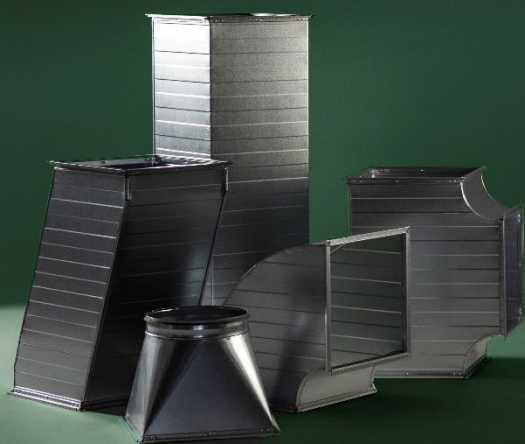
from

***Saint-Gobain Distribution Sweden (SGDS)***



|                          |                                                                                           |
|--------------------------|-------------------------------------------------------------------------------------------|
| Program:                 | The International EPD® System, <a href="http://www.environdec.com">www.environdec.com</a> |
| Program operator:        | EPD International AB                                                                      |
| EPD registration number: | EPD-IES-0022848                                                                           |
| Publication date:        | 2025-06-10                                                                                |
| Valid until:             | 2028-12-14                                                                                |

*This EPD covers multiple products and is based on the worst-case results of the product group. An EPD should provide current information and may be updated if conditions change. The stated validity is therefore subject to the continued registration and publication at [www.environdec.com](http://www.environdec.com)*



## General information

### Program information

|                 |                                                                     |
|-----------------|---------------------------------------------------------------------|
| <b>Program:</b> | The International EPD® System                                       |
| <b>Address:</b> | EPD International AB<br>Box 210 60<br>SE-100 31 Stockholm<br>Sweden |
| <b>Website:</b> | <a href="http://www.environdec.com">www.environdec.com</a>          |
| <b>E-mail:</b>  | <a href="mailto:info@environdec.com">info@environdec.com</a>        |

### Accountabilities for PCR, LCA and independent, third-party verification

Product Category Rules (PCR): Construction Products PCR 2019:14 version 1.3.4

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

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).*

### Life Cycle Assessment (LCA)

LCA accountability: Srikanth Panda, CarbonZero AB

### Third-party verification

Independent third-party verification of the declaration and data, according to ISO 14025:2006:

☒ EPD verification by individual verifier

Third-party verifier: Vladimir Koci  
LCA Studio



Approved by: The International EPD® System

The procedure for follow-up of data during EPD validity involves third-party verifier:

☐ Yes ☒ No

The EPD owner has 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 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.

EPDs of construction products may not be comparable if they do not comply with EN 15804. EPDs made according to EN15804+A1, and EN15804+A2 are not comparable, especially since a majority of the environmental indicators are based on different versions. For further information about comparability, see EN 15804 and ISO 14025.

## Company information

|                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Owner of the EPD</b>                | Saint-Gobain Distribution Sweden AB<br>Bevego Byggplåt & Ventilation AB, Box 168, 441 24 Alingsås                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Contact</b>                         | SGDS - Beriar Maroof (beriar.maroof@saint-gobain.se)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Description of the organisation</b> | <p>Saint-Gobain Distribution Sweden AB - specialists in collaboration for more efficient business in construction and installation. Saint-Gobain Distribution Sweden AB is the head company of some of Sweden's leading trading companies in construction, sheet metal, tiles and installation. All the companies have long and solid industry experience and provide most of Sweden's craftsmen with materials for various projects. Customers in different companies can also buy support items from the sister companies in the group, and in selected cases, we take joint projects to facilitate the logistics of the supply of goods, which is then often critical for a smooth construction project.</p> <ul style="list-style-type: none"> <li>• Optimera - construction trade for professional carpenters</li> <li>• Dahl – heat, plumbing and sanitary specialist</li> <li>• Bevego - building sheet metal, ventilation and technical insulation</li> <li>• Kakelspecialisten and Konradsson's Tiles - tiles, tiling and bathroom fittings</li> </ul> <p>The company's focus is on sales and services with direct contact to about 150,000 customers regularly.</p> <p>Saint-Gobain Distribution Sweden AB is owned by Saint-Gobain with a presence in 64 countries and over 190 000 employees worldwide.</p> |
| <b>Location of production site</b>     | Landvetter, Sweden                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |



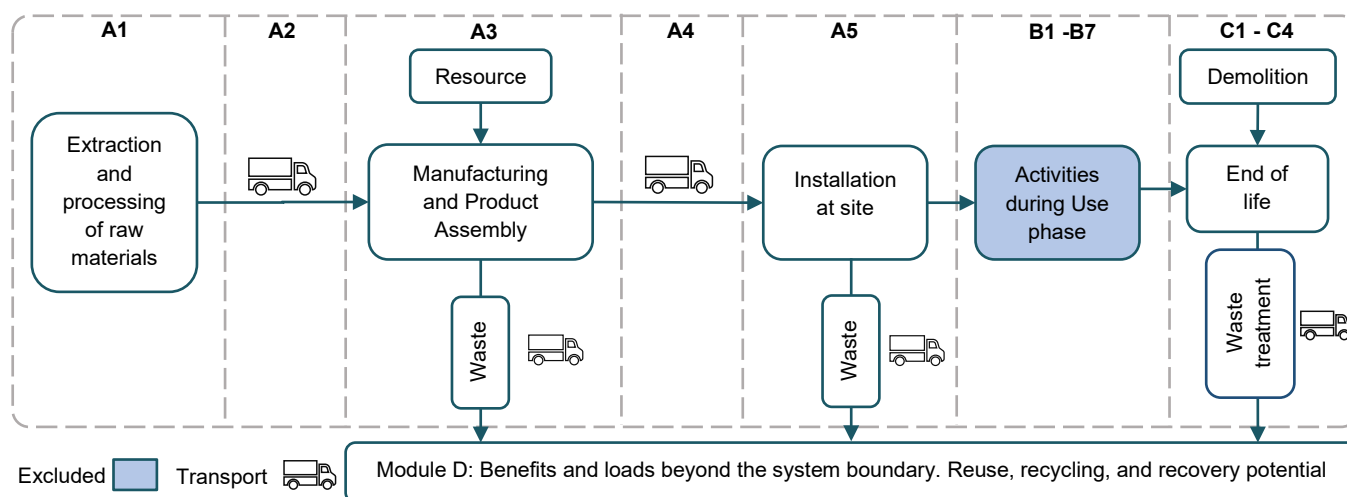
## Product information

|                               |                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Product name</b>           | Altech Rectangular ventilation ducts/ Altech Rectangular kanal – Carbon Low                                                                                                                                                                                                                                                                                                           |
| <b>Product Identification</b> | Altech Rectangular ventilation ducts – Carbon Low                                                                                                                                                                                                                                                                                                                                     |
| <b>Product Description</b>    | The product family consists of rigid rectangular cross-section ventilation ducts with integrated sealing solution made of galvanized steel in various lengths and cross-section dimensions depending on the application (as defined in standard EN 12792:2003 and EN 1505:1998), designed to provide, extract, or circulate air in residential, commercial, and industrial buildings. |
| <b>UN CPC code</b>            | 412 - Products of iron or steel                                                                                                                                                                                                                                                                                                                                                       |
| <b>Technical data</b>         | Please refer to the product pages for each specific product, as the technical data differs for each product. <a href="https://www.bevego.se/">https://www.bevego.se/</a>                                                                                                                                                                                                              |
| <b>Geographical Scope</b>     | Europe                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Use</b>                    | Air circulation channels of the building's ventilation system                                                                                                                                                                                                                                                                                                                         |

## LCA information

|                                     |                                                                                                             |
|-------------------------------------|-------------------------------------------------------------------------------------------------------------|
| <b>Declared unit</b>                | 1 kg of Product                                                                                             |
| <b>Reference service life</b>       | N/A                                                                                                         |
| <b>LCA software and Database(s)</b> | LCA for Experts (fka GaBi) with MLC Professional Database 2025.1 with an integrated Ecoinvent database 3.11 |
| <b>System boundaries</b>            | Cradle to Gate with options (A1-A3, A4, A5, C1-C4, D)                                                       |

### System Diagram:



The manufacturers, Bevego AB, procure raw materials and manufacture finished products by bending and at their facilities in Landvetter, Gothenburg, and Risxegatan, Malmö. The products are made to order and are fabricated through a combination of cutting, forming, joining, and finishing processes at the factory. The finished products are then distributed locally to customers across Sweden. Environmental impact data for the product stage, A1-A3 sub-modules, are adopted from the manufacturer-provided data, and the worst-case scenario for transport associated with A2 to raw material suppliers to the manufacturing unit and A4 from the manufacturing units to local distribution in Sweden was assumed.

## More information

### A1, Raw material supply

This module considers the extraction and processing of all raw materials, energy, and transportation that occur upstream of the studied manufacturing process. The products are made of galvanized steel sheets, EPDM, and adhesive. The LCIA data for the materials were from generic and specific data.

### A2, transport to the manufacturer

This module includes the transportation of raw materials to the manufacturing site. Specific information from the manufacturer was obtained regarding the transportation distance of all materials.

### A3, manufacturing

This module includes all resources used during the production of Altech ventilation ducts. The manufacturing processes include a combination of cutting, forming, joining, and finishing processes. This also includes packaging material, which the products are shipped to the customers. Data has been collected by the manufacturer from the production year of 2024, the full 12 months from January 2024 to December 2024.

### A4, Transport

This module includes the transportation from Saint-Gobain's distribution center in Sweden, out to the average customer.

| Scenario information                                 | Unit per DU                                       |
|------------------------------------------------------|---------------------------------------------------|
| Fuel type and consumption of vehicle or vehicle type | Truck-trailer, Euro 0 - 6 mix, < 40t gross weight |
| Distance [km]                                        | 400                                               |
| Fuel/Energy consumption value [l/tkm]                | 2,53E-02                                          |
| Capacity Utilisation (including empty returns) [%]   | 50                                                |
| Volume capacity                                      | 1                                                 |

### A5, Construction installation

This stage includes the waste management of product-related and packaging waste generated during installation. As products are made to order, product-related waste at the installation site is considered zero. All plastic and corrugated board packaging were assumed to be collected and incinerated. The pallet is being reused, so the environmental burden was considered negligible. The installation of the product was assumed to have a negligible impact, as the installation will be done manually.

| Scenario information                 | Unit (expressed per declared unit)               |
|--------------------------------------|--------------------------------------------------|
| Collection process specified by type | 0,0327 kg collected separately                   |
|                                      | 0 kg collected with mixed construction waste     |
| Recovery system specified by type    | 0,0271 kg for re-use                             |
|                                      | 0 kg for recycling                               |
|                                      | 0,0056 kg for energy recovery                    |
| Disposal specified by type           | 0 kg of product or material for final deposition |

The transportation distances for packaging waste

| Scenario information                                 | Unit per DU                                       |
|------------------------------------------------------|---------------------------------------------------|
| Fuel type and consumption of vehicle or vehicle type | Truck-trailer, Euro 0 - 6 mix, < 40t gross weight |
| Distance (for materials not to be incinerated) [km]  | 80                                                |
| Distance (for materials to be incinerated) [km]      | 130                                               |

|                                                    |          |
|----------------------------------------------------|----------|
| Fuel/Energy consumption value [l/tkm]              | 2,53E-02 |
| Capacity Utilisation (including empty returns) [%] | 50       |
| Volume capacity                                    | 1        |

### **B1-B7 Use stage**

This stage is not declared.

### **C1 Deconstruction/Demolition**

This stage includes the deconstruction of the Altech ventilation ducts for which a diesel consumption of 1.1 kWh/tonne was assumed.

| Scenario information                 | Unit (expressed per declared unit)                  |
|--------------------------------------|-----------------------------------------------------|
| Collection process specified by type | 1 kg collected separately                           |
|                                      | 0 kg collected with mixed construction waste        |
| Recovery system specified by type    | 0 kg for re-use                                     |
|                                      | 0,99 kg for recycling                               |
|                                      | 0 kg for energy recovery                            |
| Disposal specified by type           | 0,01 kg of product or material for final deposition |

### **C2 Transport**

This module represents the transport distance to the waste processing facility.

| Scenario information                                 | Unit per DU                                       |
|------------------------------------------------------|---------------------------------------------------|
| Fuel type and consumption of vehicle or vehicle type | Truck-trailer, Euro 0 - 6 mix, < 40t gross weight |
| Distance (for materials not to be incinerated) [km]  | 80                                                |
| Distance (for materials to be incinerated) [km]      | 130                                               |
| Fuel/Energy consumption value [l/tkm]                | 2,53E-02                                          |
| Capacity Utilisation (including empty returns) [%]   | 50                                                |
| Volume capacity                                      | 1                                                 |

### **C3 Waste processing**

This module includes any waste treatment needed from recycling and incineration.

| Scenario information                                                    | Energy carrier | Quantity [kWh/tonne] |
|-------------------------------------------------------------------------|----------------|----------------------|
| Loading and unloading at the sorting facility of the demolished product | Diesel         | 1,8                  |
| Mechanical sorting of the demolished product                            | Electricity    | 2,2                  |
| Fragging of steel                                                       | Diesel         | 7,4                  |
| Treatment of other materials                                            | Diesel         | 0,8                  |

### **C4 Final disposal**

This module includes any material that is landfilled.

| Scenario information                                                         | Energy carrier | Quantity [kWh/tonne] |
|------------------------------------------------------------------------------|----------------|----------------------|
| Compacting of inert construction waste for landfills (including backfilling) | Diesel         | 1,6                  |

### **D Benefits and loads beyond the system boundary**

This module includes loads and benefits obtained from energy recovery and/or recycling materials.

### **Data**

This declaration, including data collection and the modelled foreground system, including results, represents the production of Ventilation Channels in Sweden. Data for LCA is based on the annual average production values from the manufacturer collected in the year 2024.

### **Data quality**

All datasets used came from reputable databases, Sphera MLC professional database 2025.1, and Ecoinvent 3.11 database, with good technological representativeness and which represent EU, RER, or RoW average for all the life cycle stages. As the specific data is less than 3 years old, the data quality can be considered very good.

### **Time representativeness**

The primary data (foreground data) used for the product manufacturing corresponds to the period from 1st January 2024 to 31st December 2024. The datasets from generic data are not older than ten years.

### **Omissions of life cycle stages**

The following flows were excluded from the system boundary:

- A1-A3: The plants, production of machines and transportation systems are excluded since the related flows are supposed to be negligible compared to the potential environmental impacts through the life cycle of the product
- B1-B7: The use phase of the products is not included

In addition, the following flows are excluded from the system boundaries:

- Flows related to human activities, such as employee transport

### **Cut-off criteria**

The following procedures were followed for the exclusion of inputs and output.

- All input and output flows in a unit process were considered i.e., taking into account the value of all flows in the unit process and the corresponding LCI where data was available
- Data gaps were filled by conservative assumptions with average or generic data. Any assumptions in such cases were documented
- The use of cut-off criterion on mass inputs and primary energy at the unit process level (1%) and at the information module level (5%)

All hazardous and toxic materials and substances are included in the inventory and the cut-off rules do not apply.

### **Allocation**

No co-product allocation has been applied since no co-products are generated, and therefore, allocation was not relevant.

## Modules Declared

|                    | Product stage |           |               | Assembly stage |          |     |             | Use stage |             |               | End-of-life stage      |                       |                           | BSB       |                  |          |                                    |
|--------------------|---------------|-----------|---------------|----------------|----------|-----|-------------|-----------|-------------|---------------|------------------------|-----------------------|---------------------------|-----------|------------------|----------|------------------------------------|
|                    | Raw materials | Transport | Manufacturing | Transport      | Assembly | Use | Maintenance | Repair    | Replacement | Refurbishment | Operational energy use | Operational water use | Deconstruction/demolition | Transport | Waste processing | Disposal | Reuse-Recovery-Recycling-potential |
|                    | A1            | A2        | A3            | A4             | A5       | B1  | B2          | B3        | B4          | B5            | B6                     | B7                    | C1                        | C2        | C3               | C4       | D                                  |
| Declared           | X             | X         | X             | X              | X        | ND  | ND          | ND        | ND          | ND            | ND                     | ND                    | X                         | X         | X                | X        | X                                  |
| Geography          | EU            | EU        | SE            | EU             | EU       | -   | -           | -         | -           | -             | -                      | -                     | EU                        | EU        | EU               | EU       | EU                                 |
| Specific data used | 85,3 %        |           |               | -              | -        | -   | -           | -         | -           | -             | -                      | -                     | -                         | -         | -                | -        | -                                  |
| Variation-Products | <10 %         |           |               | -              | -        | -   | -           | -         | -           | -             | -                      | -                     | -                         | -         | -                | -        | -                                  |
| Variation-Sites    | <10 %         |           |               | -              | -        | -   | -           | -         | -           | -             | -                      | -                     | -                         | -         | -                | -        | -                                  |

BSB-Benefits & loads beyond system boundary

ND – Not Declared; X – Declared

Reading example:  $9,0E-03 = 9,0 \cdot 10^{-3} = 0,009$

Note: EPD of raw material can be provided by the EPD owner on request.

## Content Declaration

| Product Components       | Weight (kg/DU) | Post-consumer materials weight % | Biogenic materials weight % and kg C / DU |
|--------------------------|----------------|----------------------------------|-------------------------------------------|
| Hot Dip Galvanised Steel | 0,9889         | 95                               | 0                                         |
| EPDM                     | 0,0093         | 0                                | 0                                         |
| Adhesive                 | 0,0018         | 0                                | 0                                         |
| Total Product weight     | 1,0000         | 94                               | 0                                         |
| Packaging Materials      | Weight (kg/DU) | Weight-% (versus the product)    | Weight biogenic carbon, kg C / DU         |
| Wooden Pallet            | 0,0271         | 2,71                             | 1,07E-02                                  |
| Polypropylene (PE)       | 0,0032         | 0,32                             | 0                                         |
| Corrugated Board         | 0,0024         | 0,24                             | 1,00E-03                                  |
| Total Packaging weight   | 0,0327         | 3,27                             | 1,17E-02                                  |

DU – Declared Unit; For confidentiality reasons, the precise specification is not given here but was used in the calculations. This is the average material composition of the products considered.

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 does the packaging, following the European REACH regulation (Registration, Evaluation, Authorization and Restriction of Chemicals)

## Information on the biogenic carbon content

| Biogenic carbon content <sup>1</sup>   | Unit per FU | Amount   |
|----------------------------------------|-------------|----------|
| Biogenic carbon content in the product | kg C        | 0        |
| Biogenic carbon content in packaging   | kg C        | 1,17E-02 |

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

## Information on energy content

| Energy content                  | Unit per FU | Amount   |
|---------------------------------|-------------|----------|
| Energy content in the product   | MJ          | 3,76E-01 |
| Energy content in the packaging | MJ          | 5,73E-01 |

## Further Information

This study provides impacts for 1 kg of product as a declared unit. All products are made from sheet metal of DX51D quality in varying thicknesses and the conversion factors (specific weight) for a unit area of a product of the respective thicknesses.

## Product types and weight conversions.

| Dimensions A × B [mm] | Wall thickness [mm] | Length [m] | Specific weight [kg/m] | Surface area [m <sup>2</sup> ] |
|-----------------------|---------------------|------------|------------------------|--------------------------------|
| 400 X 300             | 0,80                | 1,00       | 8,79                   | 1,40                           |
| 600 X 400             | 0,80                | 1,00       | 12,56                  | 2,00                           |
| 1200 X 800            | 0,80                | 1,00       | 25,12                  | 4,00                           |
| 1600 X 1200           | 0,80                | 1,00       | 35,17                  | 5,60                           |

## Environmental Information

### Potential environmental impact – indicators according to EN 15804+A2, EF 3.1

| Results per functional unit: 1 kg of Product |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |           |          |          |          |          |          |           |           |
|----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|----------|----------|----------|----------|----------|-----------|-----------|
| Indicator                                    | Unit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | A1–A3     | A4       | A5       | C1       | C2       | C3       | C4        | D         |
| GWP-total                                    | kg CO <sub>2</sub> eq.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 9,61E-01  | 4,16E-02 | 4,95E-02 | 3,99E-04 | 1,28E-02 | 1,07E-02 | 5,76E-02  | -1,35E-01 |
| GWP-fossil                                   | kg CO <sub>2</sub> eq.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 1,00E+00  | 4,11E-02 | 6,63E-03 | 3,99E-04 | 1,26E-02 | 1,07E-02 | 1,64E-02  | -1,35E-01 |
| GWP-biogenic                                 | kg CO <sub>2</sub> eq.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | -4,15E-02 | 1,26E-04 | 4,29E-02 | 4,43E-08 | 5,81E-05 | 5,63E-06 | 4,12E-02  | 0,00E+00  |
| GWP-LULUC                                    | kg CO <sub>2</sub> eq.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 1,17E-03  | 4,04E-04 | 6,35E-06 | 4,08E-08 | 1,11E-04 | 6,87E-06 | 6,93E-07  | -2,62E-05 |
| ODP                                          | kg CFC-11 eq.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 1,04E-09  | 6,80E-11 | 1,61E-11 | 5,92E-12 | 6,80E-11 | 8,33E-11 | 1,44E-11  | -7,22E-14 |
| AP                                           | mole H <sup>+</sup> eq.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 3,55E-03  | 1,16E-04 | 7,76E-06 | 3,56E-06 | 5,25E-05 | 3,72E-05 | 1,24E-05  | -3,29E-04 |
| EP-freshwater*                               | kg P eq.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 1,10E-05  | 2,97E-06 | 7,46E-07 | 1,28E-08 | 2,89E-06 | 2,23E-06 | 4,02E-06  | -7,55E-08 |
| EP-marine                                    | kg N eq.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 9,94E-04  | 4,10E-05 | 2,25E-06 | 1,66E-06 | 1,27E-05 | 1,49E-05 | 9,36E-05  | -7,20E-05 |
| EP-terrestrial                               | mole N eq.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 1,08E-02  | 4,33E-04 | 1,98E-05 | 1,82E-05 | 1,32E-04 | 1,42E-04 | 4,36E-05  | -7,78E-04 |
| POCP                                         | kg NMVOC eq.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 3,29E-04  | 9,07E-05 | 5,06E-06 | 5,43E-06 | 3,31E-05 | 4,32E-05 | 2,76E-05  | -2,66E-04 |
| ADP-minerals & metals**                      | kg Sb eq.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 3,38E-05  | 3,66E-08 | 1,06E-08 | 1,42E-10 | 3,47E-08 | 3,19E-08 | 1,18E-09  | -1,30E-06 |
| ADP-fossil**                                 | MJ                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 1,35E+01  | 5,42E-01 | 2,67E-02 | 5,14E-03 | 1,78E-01 | 9,08E-02 | 2,09E-02  | -1,96E+00 |
| WDP**                                        | m <sup>3</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 2,32E-01  | 1,25E-03 | 1,25E-03 | 1,57E-05 | 1,12E-03 | 1,60E-03 | -7,08E-03 | 1,31E-02  |
| Acronyms                                     | <p>GWP-total: Global Warming Potential; GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals &amp; metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption</p> |           |          |          |          |          |          |           |           |

\*Results in kg PO<sub>4</sub> eq. can be obtained by multiplying the results in kg P eq. by a factor of 3,07.

\*\*Results of this environmental impact indicator shall be used with care, as the uncertainties on these results are high or as there is limited experience with the indicator.

## Additional Mandatory indicator

| Results per declared unit: 1 kg of Product |                        |          |          |          |          |          |          |          |           |
|--------------------------------------------|------------------------|----------|----------|----------|----------|----------|----------|----------|-----------|
| Indicator                                  | Unit                   | A1–A3    | A4       | A5       | C1       | C2       | C3       | C4       | D         |
| GWP-GHG                                    | kg CO <sub>2</sub> eq. | 1,00E+00 | 4,17E-02 | 6,64E-03 | 3,99E-04 | 1,28E-02 | 1,07E-02 | 5,76E-02 | -1,35E-01 |

*GWP-GHG indicator accounts for all greenhouse gases except biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. As such, the indicator is identical to GWP-total except that the CF for biogenic CO<sub>2</sub> is set to zero. This means that the uptake and emissions of biogenic CO<sub>2</sub> are “balanced out” already in modules A1-A3, instead of in modules A1-A5 (for packaging) or modules A-C (for product).*

## Use of resources

| Results per declared unit: 1 kg of Product |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |          |          |           |          |          |          |           |           |
|--------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------|-----------|----------|----------|----------|-----------|-----------|
| Indicator                                  | Unit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | A1–A3    | A4       | A5        | C1       | C2       | C3       | C4        | D         |
| PERE                                       | MJ                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 2,07E+01 | 4,82E-02 | 5,76E-03  | 3,27E-05 | 2,08E-02 | 1,40E-02 | -4,61E-03 | -7,21E-02 |
| PERM                                       | MJ                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 4,68E-01 | 0,00E+00 | -4,68E-01 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00  | 0,00E+00  |
| PERT                                       | MJ                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 2,12E+01 | 4,82E-02 | -4,62E-01 | 3,27E-05 | 2,08E-02 | 1,40E-02 | -4,61E-03 | -7,21E-02 |
| PENRE                                      | MJ                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 1,30E+01 | 5,42E-01 | 2,67E-02  | 5,14E-03 | 1,78E-01 | 9,08E-02 | 2,09E-02  | -1,96E+00 |
| PENRM                                      | MJ                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 4,88E-01 | 0,00E+00 | -1,12E-01 | 0,00E+00 | 0,00E+00 | 0,00E+00 | -3,76E-01 | 0,00E+00  |
| PENRT                                      | MJ                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 1,35E+01 | 5,42E-01 | -8,53E-02 | 5,14E-03 | 1,78E-01 | 9,08E-02 | 2,09E-02  | -1,96E+00 |
| SM                                         | kg                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 9,39E-01 | 0,00E+00 | 0,00E+00  | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00  | 4,75E-02  |
| RSF                                        | MJ                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 0,00E+00 | 0,00E+00 | 0,00E+00  | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00  | 0,00E+00  |
| NRSF                                       | MJ                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 0,00E+00 | 0,00E+00 | 0,00E+00  | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00  | 0,00E+00  |
| FW                                         | m <sup>3</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 6,54E-03 | 4,37E-05 | 2,97E-05  | 3,66E-07 | 3,01E-05 | 3,73E-05 | -1,67E-04 | 1,51E-04  |
| Acronyms                                   | PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy re-sources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water |          |          |           |          |          |          |           |           |

## Waste and output flows

### Waste

| Results per declared unit: 1 kg of Product |                                                                                              |          |          |          |          |          |          |           |           |
|--------------------------------------------|----------------------------------------------------------------------------------------------|----------|----------|----------|----------|----------|----------|-----------|-----------|
| Indicator                                  | Unit                                                                                         | A1–A3    | A4       | A5       | C1       | C2       | C3       | C4        | D         |
| HWD                                        | kg                                                                                           | 1,22E-03 | 2,83E-04 | 4,17E-05 | 4,60E-06 | 2,83E-04 | 1,36E-04 | 2,12E-05  | -1,64E-08 |
| NHWD                                       | kg                                                                                           | 1,80E-01 | 6,47E-04 | 2,03E-03 | 3,41E-05 | 5,96E-04 | 5,30E-03 | 1,31E-01  | -2,52E-03 |
| RWD                                        | kg                                                                                           | 3,99E-04 | 1,21E-06 | 1,29E-07 | 0,00E+00 | 5,18E-07 | 0,00E+00 | -1,35E-06 | -5,06E-06 |
| Acronyms                                   | HW Hazardous waste disposed; NHW Non-hazardous waste disposed; RW Radioactive waste disposed |          |          |          |          |          |          |           |           |

### Output flows

| Results per declared unit: 1 kg of Product |                                                                                                                                                     |          |          |          |          |          |          |          |          |
|--------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|
| Indicator                                  | Unit                                                                                                                                                | A1–A3    | A4       | A5       | C1       | C2       | C3       | C4       | D        |
| CRU                                        | kg                                                                                                                                                  | 0,00E+00 | 0,00E+00 | 2,71E-02 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| MFR                                        | kg                                                                                                                                                  | 2,00E-02 | 0,00E+00 | 1,76E-03 | 0,00E+00 | 0,00E+00 | 9,45E-01 | 0,00E+00 | 0,00E+00 |
| MER                                        | kg                                                                                                                                                  | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| EEE                                        | MJ                                                                                                                                                  | 0,00E+00 | 0,00E+00 | 1,07E-02 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 1,92E-02 | 0,00E+00 |
| EET                                        | MJ                                                                                                                                                  | 0,00E+00 | 0,00E+00 | 2,22E-02 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 3,43E-02 | 0,00E+00 |
| Acronyms                                   | CRU Components for reuse; MFR Materials for recycling; MER Materials for energy recovery; EEE Exported electric energy; ETE Exported thermal energy |          |          |          |          |          |          |          |          |

Note: It is discouraged to use the results of modules A1-A3 (A1-A5 for services) without considering the results of module C. The results presented for modules A1-A3 alone shall not be used for comparisons unless all relevant lifecycle stages, particularly end-of-life (C1-C4), are included. This ensures a more accurate and representative assessment of the environmental impact over the full product life cycle.

Disclaimer: The estimated impact results are only relative statements, which do not indicate the endpoints of the impact categories, exceeding threshold values, safety margins, and/or risks.

## Additional Requirements

### *Location-based electricity mix from the use of electricity in manufacturing*

The GWP-GHG values for the manufacturing stage impacts are presented according to the national electricity mix with data retrieved from the Association of Issuing Bodies (2021).

| National electricity grid         | Data source | GWP excl. biogenic[kg CO <sub>2</sub> -eq/kWh] |
|-----------------------------------|-------------|------------------------------------------------|
| Electricity Residual Mix - Sweden | 2022        | 7,16E-02                                       |

## Disclaimers

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

Disclaimer 1 – 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 experience with the indicator.

Note 1: The estimated impact results are only relative statements, which do not indicate the endpoints of the impact categories, exceeding threshold values, safety margins, and/or risks.

Note 2: The results presented for modules A1-A3 alone shall not be used for comparisons unless all relevant lifecycle stages, particularly end-of-life (C1-C4), are included. This ensures a more accurate and representative environmental impact assessment over the full product life cycle.

## Abbreviations

|       |                                                |
|-------|------------------------------------------------|
| CPC   | Central Product Classification                 |
| CPR   | Construction Product Regulation                |
| EPD   | Environmental Product Declaration              |
| EU    | European Union                                 |
| GHG   | Greenhouse Gas                                 |
| GPI   | General Programme Instructions                 |
| GWP   | Global Warming Potential                       |
| ISO   | International Organization for Standardization |
| LCA   | Life Cycle Assessment                          |
| LCI   | Life Cycle Inventory                           |
| ND    | Not Declared                                   |
| PCR   | Product Category Rules                         |
| PEF   | Product Environmental Footprint                |
| REACH | Restriction of Chemicals                       |
| RSL   | Reference Service Life                         |
| SI    | The International System of Units              |
| SVHC  | Substance of Very High Concern                 |
| UN    | United Nations                                 |

## References

|                                      |                                                                                                                                                                                                                                                                                                              |
|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EN 15804:2012+A2                     | Sustainability of construction works: Environmental product declaration – Core rules for the product category of construction products                                                                                                                                                                       |
| EPD International (2024)             | General Programme Instructions of the International EPD® System, version 5.0                                                                                                                                                                                                                                 |
| EPD International (2021)             | General Programme Instructions of the International EPD® System, version 4.0                                                                                                                                                                                                                                 |
| EPD International (2024)             | PCR 2019:14. Construction products and construction services (EN 15804: A2) v1.3.4                                                                                                                                                                                                                           |
| ISO 14020:2000                       | Environmental labels and declarations: General principles                                                                                                                                                                                                                                                    |
| ISO 14025:2006                       | International Standard ISO 14025: Environmental labels and declarations — Type III environmental declarations — Principles and procedures                                                                                                                                                                    |
| ISO 14040:2006                       | International Standard ISO 14040: Environmental Management – Life cycle assessment – Principles and framework. Second edition 2006-07-01.                                                                                                                                                                    |
| ISO 14044:2006                       | International Standard ISO 14044: Environmental Management – Life cycle assessment – Requirements and Guidelines.                                                                                                                                                                                            |
| SCB (2023)                           | <a href="https://www.statistikdatabasen.scb.se/pxweb/en/ssd/START__MI__MI0305/MI0305T003/table/tableViewLayout1/">https://www.statistikdatabasen.scb.se/pxweb/en/ssd/START__MI__MI0305/MI0305T003/table/tableViewLayout1/</a><br>Accessed 2024-07-20                                                         |
| Association of Issuing Bodies (2022) | European Residual Mixes 2021 (2022)<br><a href="https://www.aibnet.org/sites/default/files/assets/facts/residualmix/2021/AIB_2021_Residual_Mix_Results_1_1.pdf">https://www.aibnet.org/sites/default/files/assets/facts/residualmix/2021/AIB_2021_Residual_Mix_Results_1_1.pdf</a><br>(Retrieved 2023-09-20) |
| EPD: S-P-11500                       | XCarb® recycled and renewably produced Hot Dip Galvanised steel coils with zinc coating                                                                                                                                                                                                                      |

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