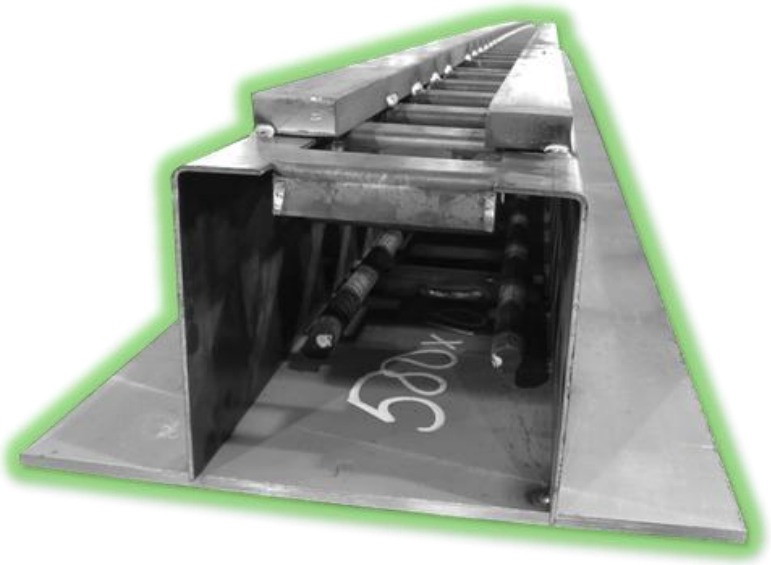
# ENVIRONMENTAL PRODUCT DECLARATION

## IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

SWT-Beam LOW
Scandinavian WeldTech AB



**EPD HUB, HUB- 4285**
Publishing date 31 October 2025, last updated on 31 October 2025, valid until 31 October 2030.

Life Cycle Assessment study has been performed in accordance with the requirements of EN 15804, EPD Hub PCR version 1.2 (24 Mar 2025) and JRC characterization factors EF 3.1.

Created with One Click LCA

# GENERAL INFORMATION

## MANUFACTURER

| | |
|---|---|
| Manufacturer | Scandinavian WeldTech AB |
| Address | Mästargatan 14, 781 71 Borlänge |
| Contact details | info@swt.eu |
| Website | www.swt.eu |

## EPD STANDARDS, SCOPE AND VERIFICATION

| | |
|---|---|
| Program operator | EPD Hub, hub@epdhub.com |
| Reference standard | EN 15804:2012+A2:2019/AC:2021 and ISO 14025 |
| PCR | EPD Hub Core PCR Version 1.2, 24 Mar 2025 |
| Sector | Construction product |
| Category of EPD | Sister EPD |
| Parent EPD number | HUB-0005 |
| Scope of the EPD | Cradle to gate with options, A4-A5, and modules C1-C4, D |
| EPD author | Niklas Widmark, Scandinavian WeldTech AB |
| EPD verification | Independent verification of this EPD and data, according to ISO 14025:<br>☐ Internal verification ☑ External verification |
| EPD verifier | Yazan Badour, as an authorized verifier acting for EPD Hub Limited |

This EPD is intended for business-to-business and/or business-to-consumer communication. The manufacturer has the sole ownership, liability, and responsibility for the EPD. EPDs within the same product category but from different programs may not be comparable. EPDs of construction products may not be comparable if they do not comply with EN 15804 and if they are not compared in a building context.

## PRODUCT

| | |
|---|---|
| Product name | SWT-Beam LOW |
| Additional labels | SWT-beam with extra low carbon footprint |
| Product reference | - |
| Place(s) of raw material origin | - |
| Place of production | Borlänge, Sweden |
| Place(s) of installation and use | - |
| Period for data | 2021-2024 |
| Averaging in EPD | No grouping |
| Variation in GWP-fossil for A1-A3 (%) | |
| GTIN (Global Trade Item Number) | - |
| NOBB (Norwegian Building Product Database) | - |
| A1-A3 Specific data (%) | 3,41 |

## ENVIRONMENTAL DATA SUMMARY

| | |
|---|---|
| **Declared unit** | 1 kg |
| **Declared unit mass** | 1 kg |
| **Mass of packaging** | 0 kg |
| **GWP-fossil, A1-A3 ($kgCO_2e$)** | 0,8 |
| **GWP-total, A1-A3 ($kgCO_2e$)** | 0,81 |
| **Secondary material, inputs (%)** | 112 |
| **Secondary material, outputs (%)** | 95 |
| **Total energy use, A1-A3 (kWh)** | 4,22 |
| **Net freshwater use, A1-A3 ($m^3$)** | 0,02 |

# PRODUCT AND MANUFACTURER

## ABOUT THE MANUFACTURER

Scandinavian WeldTech manufactures steel/concrete composite beams and columns, as well as all conventional steel constructions used for high-rise building construction.

## PRODUCT DESCRIPTION

This EPD represents the SWT-composite beam produced at Scandinavian WeldTech AB in Borlänge, Sweden. The SWT-beam LOW is based on recycled steel for a reduced CO2 impact.

The SWT-beam is a flexible solution tailored to the customer's needs. It enables slender and light structural solutions that provide savings in terms of volume and costs. The composite action between steel and concrete allows for creative structures with large open spaces. The SWT-beam has been used in numerous construction projects in Scandinavia since the early 1990s.

The SWT-beam is a structural composite element which can be combined with all type of concrete slabs (hollow-core, massive, in-situ cast and TT-cassettes) and wooden slabs. It can rest on steel, concrete and wooden columns, but is best combined with the SWT composite column to form a unified system.

SWT-beams consist of steel plates and bars welded together to form a hollow box-section, acting as a composite beam. The beam is then cast in concrete at the construction site. Typical weight of beams varies greatly between 50-500 kg/m, as each element is designed specifically to fit customer needs. This EPD is valid for an average SWT-beam project with an average material composition (production based). The quantity of materials in the product are scaled based on the product's geometry resulting in low variance of results.

The EPD calculations do not cover the concrete used on the construction site.

The products are CE-marked under the harmonized standard EN 1090-1 and complies with EN 1090-2. The product design is done according to european standards EN 1990, EN 1991, EN 1992, EN 1993, EN 1994 with applicable national adoptions.

Detailed technical information is delivered to the client as project specific data. General information can be found on: www.swt.eu.

Further information can be found at:
www.swt.eu

## PRODUCT RAW MATERIAL MAIN COMPOSITION

| Raw material category | Amount, mass % | Material origin |
|---|---|---|
| Metals | 100 | EU |
| Minerals | 0 | - |
| Fossil materials | 0 | - |
| Bio-based materials | 0 | - |

## BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

| | |
|---|---|
| Biogenic carbon content in product, kg C | 0 |
| Biogenic carbon content in packaging, kg C | 0,0015 |

## FUNCTIONAL UNIT AND SERVICE LIFE

| | |
|---|---|
| Declared unit | 1 kg |
| Mass per declared unit | 1 kg |
| Functional unit | - |
| Reference service life | - |

## SUBSTANCES, REACH - VERY HIGH CONCERN

The product does not contain any REACH SVHC substances in amounts greater than 0,1 % (1000 ppm).

# PRODUCT LIFE-CYCLE

## SYSTEM BOUNDARY

This EPD covers the life-cycle modules listed in the following table.

| Product stage | | | Assembly stage | | Use stage | | | | | | | End of life stage | | | | Beyond the system boundaries | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A1 | A2 | A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 | D | | |
| x | x | x | x | x | ND | ND | ND | ND | ND | ND | ND | x | x | x | x | x | | |
| 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 |

*Modules not declared = ND. Modules not relevant = MNR*

## MANUFACTURING AND PACKAGING (A1-A3)

The environmental impacts considered for the product stage cover the manufacturing of raw materials used in the production as well as packaging materials and other ancillary materials. Also, fuels used by machines, and handling of waste formed in the production processes at the manufacturing facilities are included in this stage. The study also considers the material losses occurring during the manufacturing processes as well as losses during electricity transmission.

A market-based approach is used in modelling the electricity mix utilized in the factory.
The steel plates are blasted using steel grit to obtain required surface conditions and are subsequently cut to dimensions. Hydraulic oils, water-oil emulsions and other lubrication oils are used during the process to reduce the wear of machines and to ensure stable cutting conditions. The steel components are welded together to obtain the final product. The welding process consumables considered in the analysis consists of filler materials and gases used for shielding. Finished products are painted and transported to the requested construction sites. Electricity and fuels are consumed during the manufacturing process to operate machines and to transport the product. Electricity is also used for ventilation and heating of the workshop. The main source of heat is provided through district heating. The steel waste produced at the plant is directed into recycling. The material loss is also considered herein.
The use of green energy in manufacturing is demonstrated through contractual instruments (GOs, RECs, etc.), and its use is ensured throughout the validity period of this EPD.

## TRANSPORT AND INSTALLATION (A4-A5)

Transportation impacts occurred from final products delivery to construction site (A4) cover fuel direct exhaust emissions, environmental impacts of fuel production, as well as related infrastructure emissions.

The transportation distance is defined according to the PCR. The distance of transportation from production plant to building site was calculated as a weighted average based on mass and distance transported over a period of 1 year. The transport is considered to be by lorry over a distance of 712 km. Vehicle capacity utilization volume factor is assumed to be 100 %. The utilization factor may vary but it was considered that the variation will not have a significant impact on the final result. Empty returns are not taken into account because the transportation company used the return trips to facilitate other customers. Transportation does not cause losses as product are properly packaged.
The bulk density of the product is between 500-1000 kg/m3, with average value 750 kg/m3.
The energy use for installation of SWT-beams is approximated to 0,25 kWh/kg product. The installation should be planned accordingly to minimize empty runs and idle engine times. The lifting device should be positioned to ensure shortest path(s) between storage and installation points taking also into account the lifting capacity.

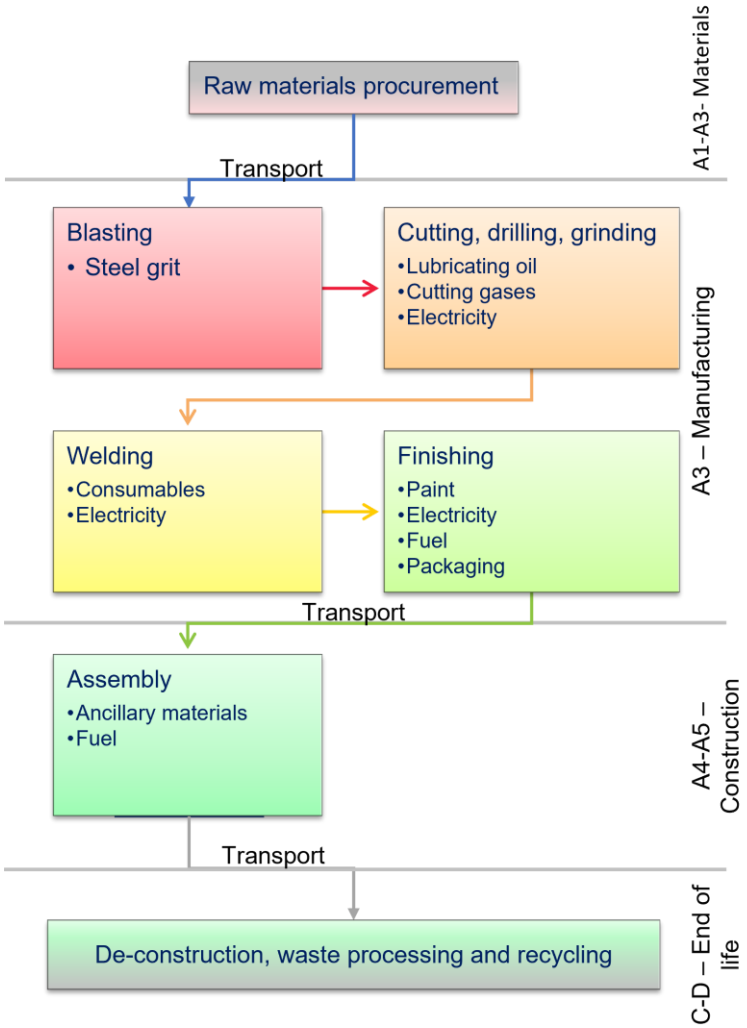
## PRODUCT USE AND MAINTENANCE (B1-B7)

This EPD does not cover the use phase.
Air, soil, and water impacts during the use phase have not been studied.

## PRODUCT END OF LIFE (C1-C4, D)

Demolition and removal is assumed to require 0,016 kWh/kg product.
The source of energy is diesel fuel used by construction machines (C1). It is assumed that 100% of the waste is collected and transported to the waste treatment centre. Distance for transportation to treatment is assumed as 50 km and the transportation method is assumed to be lorry (C2).
Approximately 95% of steel is assumed to be recycled based on World Steel Association, 2020 (C3). It is assumed that the rest 5 % of steel is taken to landfill for final disposal (C4). Due to the recycling process the end-of-life product is converted into a recycled steel (D).

# MANUFACTURING PROCESS



# LIFE-CYCLE ASSESSMENT

## CUT-OFF CRITERIA

The study does not exclude any modules or processes which are stated mandatory in the reference standard and the applied PCR. The study does not exclude any hazardous materials or substances. The study includes all major raw material and energy consumption. All inputs and outputs of the unit processes, for which data is available for, are included in the calculation. There is no neglected unit process more than 1% of total mass or energy flows. The module specific total neglected input and output flows also do not exceed 5% of energy usage or mass.

The production of capital equipment, construction activities, and infrastructure, maintenance and operation of capital equipment, personnel-related activities, energy and water use related to company management and sales activities are excluded.

The report excludes non-biogenic constituents under 0,1% of product mass. These include some ancillary materials which are all present in the product only in very small amounts and have no serious impact on the emissions of the product, such as priming paint and lubrication oil that represent less than 0,1% of product weight, cutting oils that are fully recycled and fuels that amount to less than 0,1% of total energy consumption.

The use phase is not covered, assuming there are no use emissions or replacements. All industrial processes from raw material acquisition and pre-processing, production, product distribution and installation, and end-of-life management are included.

The production of capital equipment, construction activities, infrastructure, maintenance and operation of capital equipment, personnel-related activities and water use related to company management and sales activities are excluded from the analysis.

## VALIDATION OF DATA

Data collection for production, transport, and packaging was conducted using time and site-specific information, as defined in the general information section on page 1 and 2. Upstream process calculations rely on generic data as defined in the Bibliography section. Manufacturer-provided specific and generic data were used for the product's manufacturing stage. The analysis was performed in One Click LCA EPD Generator, with the 'Cut-Off, EN 15804+A2' allocation method, and characterization factors according to EN 15804:2012+A2:2019/AC:2021 and JRC EF 3.1.

## ALLOCATION, ESTIMATES AND ASSUMPTIONS

Allocation is required if some material, energy, and waste data cannot be measured separately for the product under investigation. All allocations are done as per the reference standards and the applied PCR. In this study, allocation has been done in the following ways:

| Data type | Allocation |
|---|---|
| Raw materials | Allocated by mass or volume |
| Packaging material | Allocated by mass or volume |
| Ancillary materials | Allocated by mass or volume |
| Manufacturing energy and waste | Allocated by mass or volume |

## PRODUCT & MANUFACTURING SITES GROUPING

| | |
|---|---|
| Type of grouping | No grouping |
| Grouping method | Not applicable |
| Variation in GWP-fossil for A1-A3, % | - |

This EPD is product and factory specific.

## LCA SOFTWARE AND BIBLIOGRAPHY

This EPD has been created using One Click LCA EPD Generator for EPD Hub V3 v3.2.3. The LCA and EPD have been prepared according to the reference standards and ISO 14040/14044. The EPD Generator uses Ecoinvent v3.10.1/3.11 and One Click LCA databases as sources of environmental data. Allocation used in Ecoinvent 3.10.1/3.11 environmental data sources follow the methodology ‘allocation, Cut-off, EN 15804+A2‘.

# ENVIRONMENTAL IMPACT DATA

*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.*

## CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, EF 3.1

| Impact category | Unit | A1 | A2 | A3 | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 | D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GWP – total[1)] | kg $CO_2$e | 7,50E-01 | 1,60E-02 | 3,86E-02 | 8,05E-01 | 7,63E-02 | 9,85E-02 | ND | ND | ND | ND | ND | ND | ND | 5,77E-03 | 0,00E+00 | 2,15E-02 | 3,12E-04 | 1,20E+00 |
| GWP – fossil | kg $CO_2$e | 7,49E-01 | 1,60E-02 | 3,89E-02 | 8,04E-01 | 7,63E-02 | 9,01E-02 | ND | ND | ND | ND | ND | ND | ND | 5,77E-03 | 0,00E+00 | 2,15E-02 | 3,12E-04 | 1,20E+00 |
| GWP – biogenic | kg $CO_2$e | 8,16E-04 | 3,57E-06 | -3,81E-04 | 4,39E-04 | 1,61E-05 | 8,32E-03 | ND | ND | ND | ND | ND | ND | ND | 5,88E-07 | 0,00E+00 | -4,56E-05 | -9,93E-08 | -2,50E-03 |
| GWP – LULUC | kg $CO_2$e | 9,22E-04 | 6,98E-06 | 8,66E-05 | 1,02E-03 | 2,87E-05 | 9,26E-06 | ND | ND | ND | ND | ND | ND | ND | 5,91E-07 | 0,00E+00 | 2,65E-05 | 1,78E-07 | -1,76E-04 |
| Ozone depletion pot. | kg $CFC\text{-}_{11}$e | 9,18E-09 | 2,46E-10 | 5,35E-10 | 9,96E-09 | 1,54E-09 | 1,38E-09 | ND | ND | ND | ND | ND | ND | ND | 8,83E-11 | 0,00E+00 | 2,89E-10 | 9,04E-12 | 2,31E-09 |
| Acidification potential | mol $H^+$e | 2,87E-03 | 5,40E-05 | 2,36E-04 | 3,16E-03 | 2,46E-04 | 8,13E-04 | ND | ND | ND | ND | ND | ND | ND | 5,21E-05 | 0,00E+00 | 2,55E-04 | 2,21E-06 | 3,69E-03 |
| EP-freshwater[2)] | kg Pe | 3,68E-04 | 1,22E-06 | 2,64E-05 | 3,96E-04 | 5,14E-06 | 2,61E-06 | ND | ND | ND | ND | ND | ND | ND | 1,67E-07 | 0,00E+00 | 1,38E-05 | 2,57E-08 | 5,20E-04 |
| EP-marine | kg Ne | 6,35E-04 | 1,78E-05 | 3,78E-05 | 6,90E-04 | 8,37E-05 | 3,77E-04 | ND | ND | ND | ND | ND | ND | ND | 2,42E-05 | 0,00E+00 | 5,66E-05 | 8,44E-07 | 9,43E-04 |
| EP-terrestrial | mol Ne | 6,49E-03 | 1,94E-04 | 4,01E-04 | 7,08E-03 | 9,10E-04 | 4,13E-03 | ND | ND | ND | ND | ND | ND | ND | 2,64E-04 | 0,00E+00 | 6,39E-04 | 9,21E-06 | 1,04E-02 |
| POCP ("smog")[3)] | kg NMVOCe | 2,56E-03 | 8,02E-05 | 1,39E-04 | 2,78E-03 | 4,01E-04 | 1,23E-03 | ND | ND | ND | ND | ND | ND | ND | 7,89E-05 | 0,00E+00 | 1,89E-04 | 3,30E-06 | 3,72E-03 |
| ADP-minerals & metals[4)] | kg Sbe | 1,66E-06 | 4,53E-08 | 1,77E-07 | 1,88E-06 | 2,11E-07 | 3,23E-08 | ND | ND | ND | ND | ND | ND | ND | 2,07E-09 | 0,00E+00 | 1,52E-06 | 4,96E-10 | -7,90E-08 |
| ADP-fossil resources | MJ | 1,06E+01 | 2,31E-01 | 7,19E-01 | 1,15E+01 | 1,10E+00 | 1,18E+00 | ND | ND | ND | ND | ND | ND | ND | 7,54E-02 | 0,00E+00 | 2,88E-01 | 7,66E-03 | 1,01E+01 |
| Water use[5)] | $m^3$e depr. | 6,54E-01 | 1,14E-03 | 6,45E-02 | 7,20E-01 | 5,66E-03 | 2,95E-03 | ND | ND | ND | ND | ND | ND | ND | 1,88E-04 | 0,00E+00 | 5,18E-03 | 2,21E-05 | 1,67E-01 |

*1) GWP = Global Warming Potential; 2) EP = Eutrophication potential. Required characterisation method and data are in kg P-eq. Multiply by 3,07 to get PO4e; 3) POCP = Photochemical ozone formation; 4) ADP = Abiotic depletion potential; 5) EN 15804+A2 disclaimer for Abiotic depletion and Water use and optional indicators except Particulate matter and Ionizing radiation, human health. The results of these environmental impact indicators shall be used with care as the uncertainties on these results are high or as there is limited experience with the indicator.*

## USE OF NATURAL RESOURCES

| Impact category | Unit | A1 | A2 | A3 | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 | D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Renew. PER as energy[8)] | MJ | 1,53E+00 | 3,26E-03 | 2,19E+00 | 3,72E+00 | 1,80E-02 | 7,52E-03 | ND | ND | ND | ND | ND | ND | ND | 4,78E-04 | 0,00E+00 | 5,37E-02 | 7,39E-05 | -5,08E-01 |
| Renew. PER as material | MJ | 0,00E+00 | 0,00E+00 | 2,17E-02 | 2,17E-02 | 0,00E+00 | -2,17E-02 | ND | ND | ND | ND | ND | ND | ND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | -2,54E-02 |
| Total use of renew. PER | MJ | 1,53E+00 | 3,26E-03 | 2,21E+00 | 3,74E+00 | 1,80E-02 | -1,42E-02 | ND | ND | ND | ND | ND | ND | ND | 4,78E-04 | 0,00E+00 | 5,37E-02 | 7,39E-05 | -5,33E-01 |
| Non-re. PER as energy | MJ | 1,06E+01 | 2,31E-01 | 6,61E-01 | 1,15E+01 | 1,10E+00 | 1,18E+00 | ND | ND | ND | ND | ND | ND | ND | 7,54E-02 | 0,00E+00 | 2,88E-01 | 7,66E-03 | 1,01E+01 |
| Non-re. PER as material | MJ | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | ND | ND | ND | ND | ND | ND | ND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Total use of non-re. PER | MJ | 1,06E+01 | 2,31E-01 | 6,61E-01 | 1,15E+01 | 1,10E+00 | 1,18E+00 | ND | ND | ND | ND | ND | ND | ND | 7,54E-02 | 0,00E+00 | 2,88E-01 | 7,66E-03 | 1,01E+01 |
| Secondary materials | kg | 1,12E+00 | 9,91E-05 | 2,51E-04 | 1,12E+00 | 4,78E-04 | 4,90E-04 | ND | ND | ND | ND | ND | ND | ND | 3,13E-05 | 0,00E+00 | 3,52E-04 | 1,93E-06 | -8,53E-01 |
| Renew. secondary fuels | MJ | 1,12E-04 | 1,26E-06 | 5,23E-06 | 1,18E-04 | 6,03E-06 | 1,28E-06 | ND | ND | ND | ND | ND | ND | ND | 8,19E-08 | 0,00E+00 | 1,63E-05 | 3,99E-08 | -4,26E-05 |
| Non-ren. secondary fuels | MJ | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | ND | ND | ND | ND | ND | ND | ND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Use of net fresh water | $m^3$ | 1,79E-02 | 3,39E-05 | 1,65E-03 | 1,96E-02 | 1,63E-04 | 7,81E-05 | ND | ND | ND | ND | ND | ND | ND | 4,99E-06 | 0,00E+00 | 1,53E-04 | 7,97E-06 | 8,41E-04 |

*8) PER = Primary energy resources.*

## END OF LIFE – WASTE

| Impact category | Unit | A1 | A2 | A3 | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 | D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Hazardous waste | kg | 4,48E-01 | 3,85E-04 | 2,53E-03 | 4,51E-01 | 1,60E-03 | 1,31E-03 | ND | ND | ND | ND | ND | ND | ND | 8,40E-05 | 0,00E+00 | 1,88E-03 | 8,46E-06 | -5,21E-02 |
| Non-hazardous waste | kg | 1,70E+00 | 7,21E-03 | 1,34E-01 | 1,84E+00 | 3,20E-02 | 1,79E-02 | ND | ND | ND | ND | ND | ND | ND | 1,14E-03 | 0,00E+00 | 6,80E-02 | 1,93E-04 | 3,16E+00 |
| Radioactive waste | kg | 4,28E-05 | 5,20E-08 | 4,33E-06 | 4,71E-05 | 3,30E-07 | 1,30E-07 | ND | ND | ND | ND | ND | ND | ND | 8,20E-09 | 0,00E+00 | 6,26E-07 | 1,17E-09 | -2,07E-05 |

## END OF LIFE – OUTPUT FLOWS

| Impact category | Unit | A1 | A2 | A3 | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 | D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Components for re-use | kg | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | ND | ND | ND | ND | ND | ND | ND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Materials for recycling | kg | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | ND | ND | ND | ND | ND | ND | ND | 0,00E+00 | 0,00E+00 | 9,50E-01 | 0,00E+00 | 0,00E+00 |
| Materials for energy rec | kg | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | ND | ND | ND | ND | ND | ND | ND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Exported energy | MJ | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | ND | ND | ND | ND | ND | ND | ND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Exported energy – Electricity | MJ | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | ND | ND | ND | ND | ND | ND | ND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Exported energy – Heat | MJ | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | ND | ND | ND | ND | ND | ND | ND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |

## ENVIRONMENTAL IMPACTS – EN 15804+A1, CML

| Impact category | Unit | A1 | A2 | A3 | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 | D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Global Warming Pot. | kg $CO_2$e | 7,46E-01 | 1,59E-02 | 4,11E-02 | 8,03E-01 | 7,58E-02 | 8,97E-02 | ND | ND | ND | ND | ND | ND | ND | 5,74E-03 | 0,00E+00 | 2,14E-02 | 3,09E-04 | 1,19E+00 |
| Ozone depletion Pot. | kg $CFC_{-11}$e | 7,58E-09 | 1,96E-10 | 4,39E-10 | 8,21E-09 | 1,22E-09 | 1,09E-09 | ND | ND | ND | ND | ND | ND | ND | 7,00E-11 | 0,00E+00 | 2,38E-10 | 7,18E-12 | 3,38E-09 |
| Acidification | kg $SO_2$e | 2,34E-03 | 4,12E-05 | 1,97E-04 | 2,57E-03 | 1,87E-04 | 5,72E-04 | ND | ND | ND | ND | ND | ND | ND | 3,66E-05 | 0,00E+00 | 2,05E-04 | 1,64E-06 | 2,91E-03 |
| Eutrophication | kg $PO_4^3$e | 3,86E-04 | 1,01E-05 | 2,57E-05 | 4,22E-04 | 4,72E-05 | 1,34E-04 | ND | ND | ND | ND | ND | ND | ND | 8,55E-06 | 0,00E+00 | 2,98E-05 | 5,21E-07 | 6,27E-04 |
| POCP (“smog”) | kg $C_2H_4$e | 2,15E-04 | 3,70E-06 | 2,45E-05 | 2,43E-04 | 1,76E-05 | 4,29E-05 | ND | ND | ND | ND | ND | ND | ND | 2,74E-06 | 0,00E+00 | 1,22E-05 | 1,55E-07 | 6,72E-04 |
| ADP-elements | kg Sbe | 1,52E-06 | 4,42E-08 | 1,74E-07 | 1,73E-06 | 2,06E-07 | 3,14E-08 | ND | ND | ND | ND | ND | ND | ND | 2,01E-09 | 0,00E+00 | 1,52E-06 | 4,86E-10 | -6,73E-08 |
| ADP-fossil | MJ | 7,65E+00 | 2,28E-01 | 4,22E-01 | 8,30E+00 | 1,08E+00 | 1,17E+00 | ND | ND | ND | ND | ND | ND | ND | 7,49E-02 | 0,00E+00 | 2,46E-01 | 7,58E-03 | 1,15E+01 |

## ADDITIONAL INDICATOR – GWP-GHG

| Impact category | Unit | A1 | A2 | A3 | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 | D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GWP-GHG[9)] | kg $CO_2e$ | 7,50E-01 | 1,60E-02 | 3,90E-02 | 8,05E-01 | 7,63E-02 | 9,01E-02 | ND | ND | ND | ND | ND | ND | ND | 5,77E-03 | 0,00E+00 | 2,15E-02 | 3,12E-04 | 1,20E+00 |

*9) This indicator includes all greenhouse gases excluding biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. In addition, the characterisation factors for the flows – CH4 fossil, CH4 biogenic and Dinitrogen monoxide – were updated. This indicator is identical to the GWP-total of EN 15804:2012+A2:2019 except that the characterisation factor for biogenic CO2 is set to zero.*

## SCENARIO DOCUMENTATION

## DATA SOURCES

### Manufacturing energy scenario documentation

1. Heat and power co-generation, biogas, gas engine, Sweden, Ecoinvent, 0.0071 kgCO2e/MJ
2. Electricity production, hydro, run-of-river, Sweden, Ecoinvent, 0.0044 kgCO2e/kWh

### Transport scenario documentation - A4 (Transport resources)

1. Transport, freight, lorry >32 metric ton, EURO5, 712 km
2. Transport, freight, lorry >32 metric ton, EURO5, 712 km

### Transport scenario documentation A4

| Scenario parameter | Value |
|---|---|
| Capacity utilization (including empty return) % | 100 |
| Bulk density of transported products | 7,69E+02 |
| Volume capacity utilization factor | <1 |

### Installation scenario documentation - A5 (Installation resources)

1. Diesel, burned in building machine, Ecoinvent, 0.25 kWh

### Installation scenario documentation - A5 (Installation waste)

1. Wood chipping, industrial residual wood, stationary electric chipper, Ecoinvent, Materials for energy recovery, 0.0015 kg
2. Direct emission to air: Carbon dioxide, non-fossil, One Click LCA, 0.0056 kg

### Use stages scenario documentation - C1-C4 (Data source)

1. Diesel, burned in building machine, Ecoinvent, 0.016 kWh
2. Transported mass, 1.0 kg
3. Sorting and pressing of iron scrap, Ecoinvent, Materials for recycling, 0.95 kg
4. Treatment of scrap steel, inert material landfill, Ecoinvent, 0.05 kg

| Scenario information | Value |
|---|---|
| Scenario assumptions e.g. transportation | - |

# THIRD-PARTY VERIFICATION STATEMENT

EPD Hub declares that this EPD is verified in accordance with ISO 14025 by an independent, third-party verifier. The project report on the Life Cycle Assessment and the report(s) on features of environmental relevance are filed at EPD Hub. EPD Hub PCR and ECO Platform verification checklist are used.

EPD Hub is not able to identify any unjustified deviations from the PCR and EN 15802+A2 in the Environmental Product Declaration and its project report.

EPD Hub maintains its independence as a third-party body; it was not involved in the execution of the LCA or in the development of the declaration and has no conflicts of interest regarding this verification.

The company-specific data and upstream and downstream data have been examined as regards plausibility and consistency. The publisher is responsible for ensuring the factual integrity and legal compliance of this declaration.

The software used in creation of this LCA and EPD is verified by EPD Hub to conform to the procedural and methodological requirements outlined in ISO 14025:2010, ISO 14040/14044, EN 15804+A2, and EPD Hub Core Product Category Rules and General Program Instructions.

Verified tools

Tool verifier: Magaly Gonzalez Vazquez
Tool verification validity: 27 March 2025 - 26 March 2028

Yazan Badour, as an authorized verifier acting for EPD Hub Limited
31.10.2025