



ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

Concrete furniture and decoration in public spaces (Betongmöbler och utsmyckning i offentlig miljö)

S:t Eriks AB



EPD HUB, HUB-5684

Published on 15.03.2026, last updated on 15.03.2026, valid until 15.03.2031

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	S:t Eriks AB
Address	Betongvägen 11, 653 50 Karlstad, Sweden
Contact details	info@steriks.se
Website	https://steriks.se

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 EN 16757 Product Category Rules for concrete and concrete elements
Sector	Construction product
Category of EPD	Third party verified EPD
Scope of the EPD	Cradle to gate with options, A4-B1, and modules C1-C4, D
EPD author	Therese Kvarnström
EPD verification	Independent verification of this EPD and data, according to ISO 14025: <input type="checkbox"/> Internal verification <input checked="" type="checkbox"/> External verification
EPD verifier	Magaly Gonzalez Vazquez as an authorized verifier for EPD Hub

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	Concrete furniture and decoration in public spaces (Betongmöbler och utsmyckning i offentlig miljö)
Place(s) of raw material origin	Sweden and EU
Place of production	Karlstad, Sweden
Place(s) of installation and use	Sweden
Period for data	01/01/2024 - 31/12/2024
Averaging in EPD	Multiple products
Variation in GWP-fossil for A1-A3	-19% to +5%
A1-A3 Specific data	93,2%

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 tonne of concrete product
Declared unit mass (kg)	1000
Mass of packaging (kg)	16
GWP-fossil, A1-A3 (kgCO₂e)	150
GWP-total, A1-A3 (kgCO₂e)	146
Secondary material, inputs (%)	2,94
Secondary material, outputs (%)	95,9
Total energy use, A1-A3 (kWh)	478
Net freshwater use, A1-A3 (m³)	1,67

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

S:t Eriks started its first business, a tile factory, in 1888. Today, we are one of Sweden's leading suppliers of slabs, paving stones, walls, blocks and water and sewage systems made of concrete or natural stone. Over the years, we have contributed materials and knowledge to many large and small projects – from Riksdagshuset, Sergels torg and Förbifart Stockholm to garage driveways, patios and gardens all over the country. S:t Eriks are certified according to ISO 9001 and ISO 14001.

PRODUCT DESCRIPTION

This EPD covers our product categories seating furniture, planting containers, decorations, bicycle racks and foundations for flagpoles and tree pits. Concrete furniture and decorations are resistant to wind and weather and therefore work well as outdoor seating and planting containers in both public spaces and private gardens.

Seating furniture such as benches, chairs, seating bollards and tiered seatings fulfils both practical and aesthetic functions. They come in different shapes and can seat a few or many people, depending on their size. In addition to serving as seating, they can also be used as barriers or driveway guards. This EPD covers all of our seating furniture, such as Bergen bench, Fjord bench, Ulriksdal bench, Kuben and Svampen sitting bollards, Colosseum tiered seating and Tango chair, except for the product Outline.

Planters such as pots and urns come in various shapes and sizes; ranging from round curves to straight edges and from small flowerpots to large containers that can also serve as barriers. This EPD covers all planting containers available in our product range, such as Bergen pot, Fjord pot, Järvastad, Svenshög and Österlen.

Bicycle racks come in different designs and sizes to accommodate a few or many bicycles. This EPD covers all bicycle racks available in our product range, such as Pedalen and Kuggen.

The flagpole foundation is a stable base for temporary flagging. The mobile foundation is suitable for both sinking into the ground or placing on top of the surface. This EPD covers all sizes of flagpole foundations available in our product range.

Tree pit foundations come in various sizes. They protect the tree's root zone and provide edge support against adjacent paving. This EPD covers all sizes of tree pit foundations available in our product range.

The recipe for the planting container 'Bergen pot' has been used as a representative product, as this item has sold the most in terms of weight. This EPD also refers to other products with the same or similar recipes produced on the same site in Karlstad, Sweden.

The reinforcement in the products varies between 0-5%. The flagpole foundations and bicycle racks have the lowest climate footprint; 19% lower than the reference. Bergen bench and Fjord bench have the highest; 5% higher than the reference. The tree pit foundation and the seating furniture Kuben and Colosseum have a climate footprint about 9% lower than the reference. The rest of the products have the same climate footprint as the reference.

Further information can be found at <https://steriks.se>



The representative product Bergen pot.

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	2	SE
Minerals	97,7	SE
Fossil materials	0,3	EU

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	1,3

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 tonne of concrete product
Mass per declared unit	1000 kg
Reference service life	50 years

SUBSTANCES, REACH - VERY HIGH CONCERN

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



Bergen pots.



Kuggen bicycle rack.

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	x	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

Not declared = ND.

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.

The concrete mixture consists of cement, aggregates, water, concrete admixtures and steel reinforcement. (A1)

Raw materials are transported by lorry and, in some cases, by sea from suppliers in Sweden and EU, located between 15 and 2300 km from the production site. The shortest transport distance is for the aggregates, who come from a nearby quarry. The longest transport distance is for the concrete admixture. (A2)

Concrete element production starts by transporting the binders, aggregates and additives to silos, from where they are dosed onto a conveyor. Cement is then added to the ingredients, after which the material is mixed dry. Water and additives are added to the mixture, followed by wet mixing. The wet mass is filled into moulds prepared with reinforcement steel. The products are then cured in their moulds. After they have been demoulded, they are quality checked and then taken to storage. The products are transported and stored on pallets; the pallets are handled using machine forks. 79% of the pallets used are called Byggpall, which belong to a return system where the pallets are reused.

During production, material losses are estimated to 0,1% for concrete and reinforcement, based on internal factory data. Approximately half of the discarded products are reused on site or by local contractors, while the rest is sent to a recycling plant located 13 km from the factory.

Electricity, 100% renewable, and district heating are used in the factory. A market-based approach is used in modelling the electricity mix utilized in the factory. Fuel used for on-site transportations is included. (A3)

TRANSPORT AND INSTALLATION (A4-A5)

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

Average distance of transportation from production plant to building site is calculated on all customers and the transportation method is lorry. Vehicle capacity utilization is assumed to be 100% which means full load. In reality, it may vary but it is assumed to be negligible.

Empty returns are not taken into account as the return trip is used by the transportation company to serve the needs of other clients. Transportation does not cause losses as products are fastened properly. (A4)

Installation includes the energy use. Energy consumption for installation is calculated at 3 tonnes per hour. It is assumed 10 kWh is required to assemble the products per hour. Production loss at installation is assumed negligible as the precast products are delivered ready made from the factory.

Packaging waste is generated from pallets. The wood pallet is recycled (32%), incinerated (30%) and landfilled (38%) according to EUROSTAT, https://ec.europa.eu/eurostat/databrowser/view/env_waspac_custom_85_19174/default/table?lang=en. The average transport distance to the waste facility is estimated at 50 km, using a lorry as the most common mode of transport. (A5)

PRODUCT USE AND MAINTENANCE (B1-B7)

Carbon dioxide uptake through carbonisation (CO₂) in the use stage is taken into account in these calculations. Carbonisation is a natural chemical process where part of the carbon dioxide released during the calcination process during cement production is reabsorbed to the concrete when exposed to air. This usually occurs during the concrete product's use and final stage. (B1)

The calculation is made on concrete with a Reference Service Life (RSL) of 50 years and on a planting container with the dimensions 600x600x675 mm. Air, soil, and water impacts during the use phase have not been studied.



Kuben seating furniture also functions as a traffic barrier.

PRODUCT END OF LIFE (C1-C4, D)

End-of-life treatment takes place at regional construction and demolition waste facilities in Sweden. (C&D)

At the end-of-life, in the demolition phase, 100% of the waste is assumed to be collected as separate construction waste. The demolition process consumes energy in the form of diesel fuel used by building machines. Energy consumption is assumed to be the same as in the installation phase. (C1)

The dismantled concrete products are delivered to the nearest construction waste treatment plant. It is estimated that there is no mass loss during the use of the product, therefore the end-of-life product is assumed to have the same weight as the declared product. Transportation distance to the closest disposal area is estimated as 50 km and the most common transportation method is lorry. (C2)

At the waste treatment plant, waste that can be reused, recycled or recovered for energy is separated and diverted for further use. It can be assumed that 100% of the concrete products are transported to a waste treatment plant, where the products are crushed and separated. 93,6% of concrete and steel is recycled. The process losses of the waste treatment plant are assumed to be negligible (C3). The remaining 6,4% of concrete and steel are assumed to be sent to the landfill (C4). Source: Mineral waste from construction and demolition, waste treatment, by the European Environment Agency. Published 16 Jan 2020, Modified 20 Sept 2024.

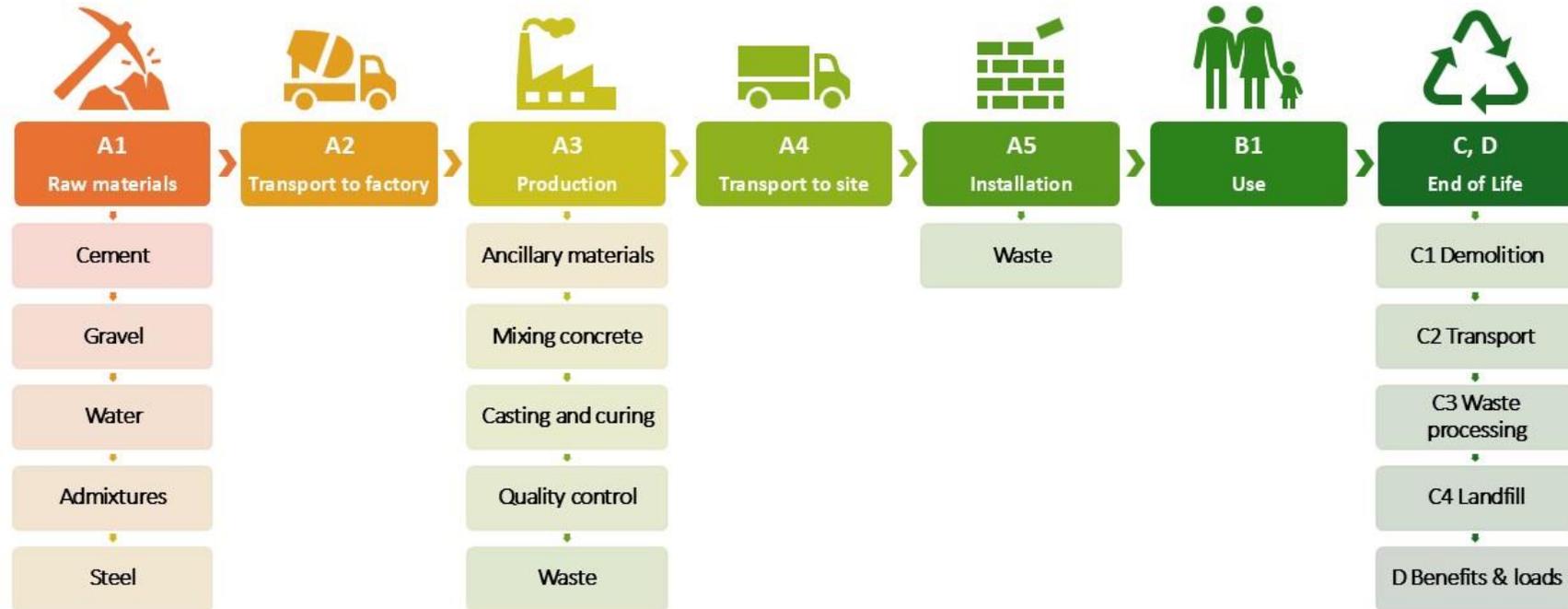
Due to the recycling potential of concrete, it can be crushed and used as secondary raw material, which avoids the use of virgin raw materials. The 93,6% of concrete going to waste processing is converted into secondary raw materials after recycling. The recycled material content in the concrete itself is assumed to be 1,4%. (D)

The end-of-life scenarios (C1–C4) and potential reuse, recovery, and recycling (D) described in this EPD are currently in use and reflect the most likely and representative practices for the product's lifecycle. These scenarios are based on industry standards and typical regional waste management procedures in Sweden, ensuring realistic and applicable modelling of environmental impacts.



Fjord bench.

MANUFACTURING PROCESS AND SYSTEM BOUNDARY





Tango chairs.

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.

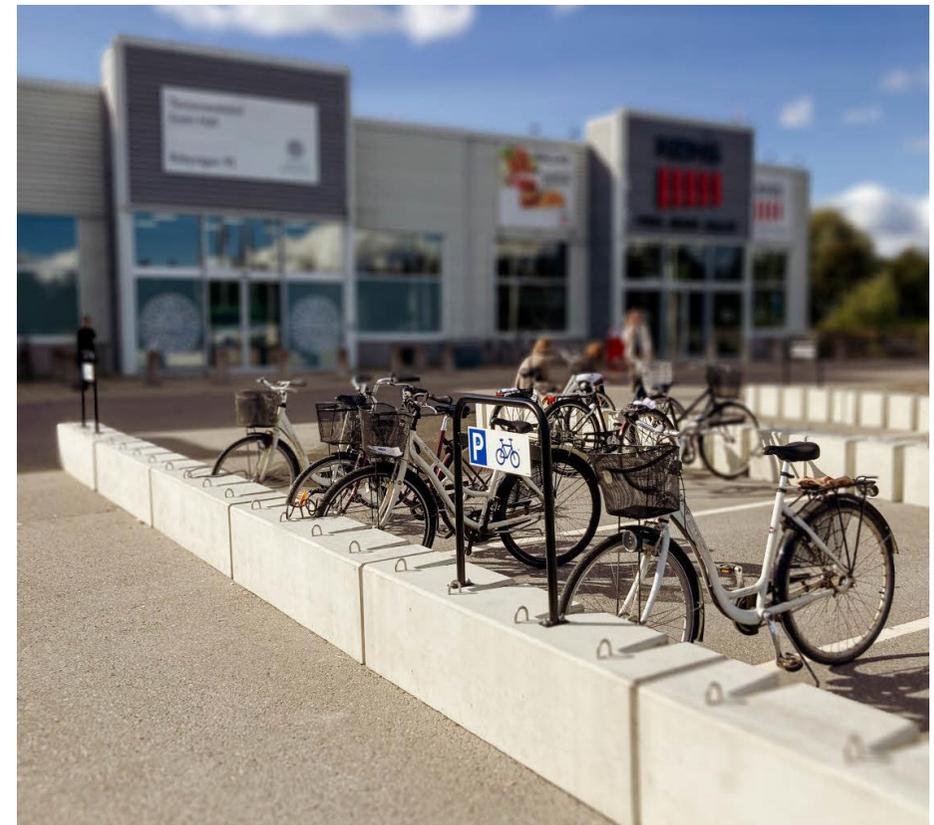
The production of capital equipment, construction activities, and infrastructure, maintenance and operation of capital equipment, personnel-related activities, energy and water use related to company management and sales activities are excluded.

All industrial processes from raw material acquisition and pre-processing, production, product distribution and installation, and end-of-life management are included. For easier modelling and because of lack of accuracy in available modelling resources some constituents under 0,1% of product mass are excluded.

Transportation and waste streams of the packaging materials used for delivering the raw materials to the factory are omitted since the quantified mass contribution is less than 0,1%. Packaging materials for the products, other than pallets, are also omitted since the quantified mass contribution is less than 0,1%.

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. 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.



Pedalen bicycle racks.

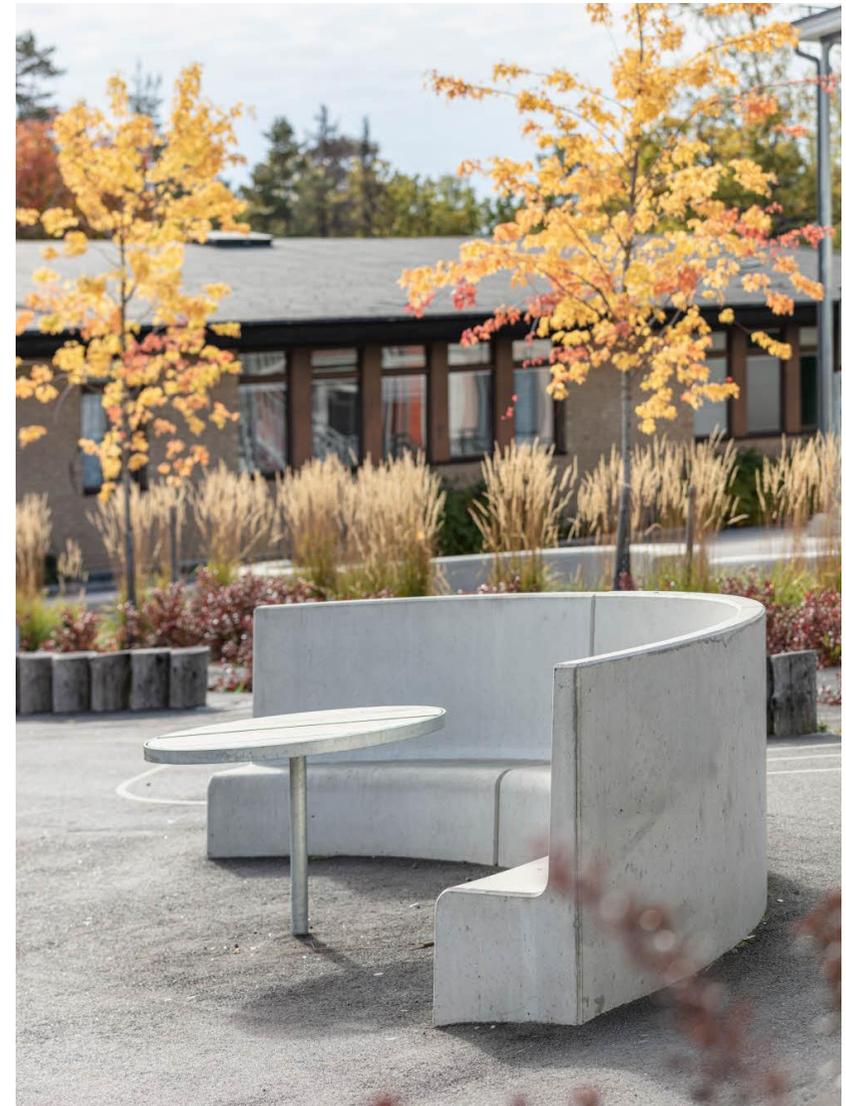
ALLOCATION, ESTIMATES AND ASSUMPTIONS

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	No allocation
Packaging material	No allocation
Ancillary materials	Allocated by mass or volume
Manufacturing energy and waste	Allocated by mass or volume

All estimations and assumptions are given below.

- * Modules A2, A4 & C2: Vehicle capacity utilization volume factor is assumed to be 1 which means full load. It may vary but as the role of transportation emission in total results is small and so the variety in load is assumed to be negligible.
- * Module A4: Transportation doesn't cause losses. Volume capacity utilisation factor is assumed to be 1 for the packaged products. Additionally, transportation distances and vehicle types are assumed according to the delivery in the last year.
- * Module A5: Installation energy is included to account for product installation at site.
- * Module C1: Consumed energy for demolition process is assumed to be the same as in A5.
- * Module C2: Transportation distance to the closest disposal area is estimated as 50 km and the transportation method is assumed as lorry which is the most common.
- * Modules C3, C4 & D: 93,6% of concrete and steel are sent for recycling while the remaining materials are assumed to be landfilled. EU average.



Ulriksdal couch.

PRODUCT & MANUFACTURING SITES GROUPING

Type of grouping	Multiple products
Grouping method	Based on a representative product
Variation in GWP-fossil for A1-A3	-19% to +5%

This EPD cover the concrete product categories seating furniture, planting containers, decorations, bicycle racks and foundations for flagpoles and tree pits. It does not cover the product Outline.

This EPD refers to products with the same or similar recipes produced on the same site in Karlstad, Sweden. They are all part of our product range called "Public environment". The reinforcement in the products varies between 0-5%. The recipe for the planting container 'Bergen pot' has been used as a representative product, as this item has sold the most in terms of weight.

The flagpole foundations and bicycle racks have the lowest climate footprint; 19% lower than the reference. Bergen bench and Fjord bench have the highest; 5% higher than the reference. The tree pit foundation and the seating furniture Kuben and Colosseum have a climate footprint about 9% lower than the reference. The rest of the products have the same climate footprint as the reference.

LCA SOFTWARE AND BIBLIOGRAPHY

This EPD has been created using One Click LCA EPD Generator for EPD Hub V3 and EPD Process Certification 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'.

A5

https://ec.europa.eu/eurostat/databrowser/view/env_waspac_custom_8519174/default/table?lang=en

C3-C4

Mineral waste from construction and demolition, waste treatment, by the European Environment Agency. Published 16 Jan 2020, Modified 20 Sept 2024.



Österlen pots.



Colosseum tiered seating.

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	1,34E+02	6,93E+00	5,07E+00	1,46E+02	2,13E+01	7,69E+00	-2,50E+01	ND	ND	ND	ND	ND	ND	1,15E+00	5,30E+00	4,54E+00	4,10E-01	-9,37E+00
GWP – fossil	kg CO ₂ e	1,34E+02	6,92E+00	9,60E+00	1,50E+02	2,12E+01	1,38E+00	-2,50E+01	ND	ND	ND	ND	ND	ND	1,15E+00	5,30E+00	4,54E+00	4,09E-01	-9,88E+00
GWP – biogenic	kg CO ₂ e	4,72E-01	1,49E-03	-4,54E+00	-4,07E+00	5,02E-03	6,31E+00	0,00E+00	ND	ND	ND	ND	ND	ND	1,18E-04	1,16E-03	-1,32E-03	-1,30E-04	5,25E-01
GWP – LULUC	kg CO ₂ e	5,08E-02	2,86E-03	1,15E-02	6,52E-02	9,91E-03	4,02E-04	0,00E+00	ND	ND	ND	ND	ND	ND	1,18E-04	2,06E-03	9,43E-04	2,34E-04	-9,33E-03
Ozone depletion pot.	kg CFC-11e	2,74E-07	1,41E-07	1,35E-07	5,50E-07	3,42E-07	2,16E-08	0,00E+00	ND	ND	ND	ND	ND	ND	1,77E-08	1,11E-07	6,87E-08	1,19E-08	-7,97E-08
Acidification potential	mol H ⁺ e	2,66E-01	3,03E-02	7,51E-02	3,71E-01	5,41E-02	1,15E-02	0,00E+00	ND	ND	ND	ND	ND	ND	1,04E-02	1,25E-02	4,22E-02	2,90E-03	-6,05E-02
EP-freshwater ²⁾	kg Pe	7,47E-03	4,65E-04	2,63E-03	1,06E-02	1,71E-03	8,00E-05	0,00E+00	ND	ND	ND	ND	ND	ND	3,33E-05	3,70E-04	3,91E-04	3,37E-05	-3,20E-03
EP-marine	kg Ne	9,53E-02	7,43E-03	1,92E-02	1,22E-01	1,37E-02	5,79E-03	0,00E+00	ND	ND	ND	ND	ND	ND	4,83E-03	3,28E-03	1,83E-02	1,11E-03	-1,40E-02
EP-terrestrial	mol Ne	1,10E+00	8,14E-02	2,09E-01	1,39E+00	1,49E-01	5,69E-02	0,00E+00	ND	ND	ND	ND	ND	ND	5,29E-02	3,55E-02	2,01E-01	1,21E-02	-1,68E-01
POCP (“smog”) ³⁾	kg NMVOCe	2,90E-01	3,68E-02	6,30E-02	3,89E-01	8,20E-02	1,72E-02	0,00E+00	ND	ND	ND	ND	ND	ND	1,58E-02	2,17E-02	6,00E-02	4,33E-03	-4,68E-02
ADP-minerals & metals ⁴⁾	kg Sbe	2,78E-02	1,88E-05	1,62E-05	2,78E-02	6,15E-05	1,02E-06	0,00E+00	ND	ND	ND	ND	ND	ND	4,14E-07	1,52E-05	3,14E-05	6,51E-07	-5,05E-05
ADP-fossil resources	MJ	1,08E+03	1,02E+02	3,03E+02	1,48E+03	3,20E+02	1,83E+01	0,00E+00	ND	ND	ND	ND	ND	ND	1,51E+01	7,96E+01	5,95E+01	1,00E+01	-1,21E+02
Water use ⁵⁾	m ³ e depr.	2,74E+01	5,11E-01	3,23E+00	3,11E+01	1,58E+00	1,02E-01	0,00E+00	ND	ND	ND	ND	ND	ND	3,77E-02	4,08E-01	2,36E-01	2,90E-02	-1,41E+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.

ADDITIONAL (OPTIONAL) 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
Particulate matter	Incidence	1,84E-06	6,35E-07	1,28E-06	3,76E-06	2,09E-06	3,18E-07	0,00E+00	ND	ND	ND	ND	ND	ND	2,96E-07	5,17E-07	8,12E-06	6,61E-08	-8,94E-07
Ionizing radiation ⁶⁾	kBq U235e	2,00E+01	1,19E-01	1,51E+01	3,52E+01	2,78E-01	1,40E-02	0,00E+00	ND	ND	ND	ND	ND	ND	6,68E-03	9,59E-02	7,20E-02	6,32E-03	-9,71E-01
Ecotoxicity (freshwater)	CTUe	3,34E+02	1,18E+01	1,66E+02	5,12E+02	4,49E+01	1,70E+00	0,00E+00	ND	ND	ND	ND	ND	ND	8,31E-01	9,38E+00	6,27E+00	8,43E-01	-2,78E+01
Human toxicity, cancer	CTUh	2,54E-08	1,19E-09	6,11E-09	3,27E-08	3,55E-09	2,06E-10	0,00E+00	ND	ND	ND	ND	ND	ND	1,19E-10	8,83E-10	8,01E-10	7,55E-11	-2,61E-09
Human tox. non-cancer	CTUh	3,00E-07	6,34E-08	6,72E-08	4,30E-07	2,06E-07	6,63E-09	0,00E+00	ND	ND	ND	ND	ND	ND	1,88E-09	5,14E-08	3,23E-08	1,73E-09	-7,75E-08
SQP ⁷⁾	-	2,38E+02	9,64E+01	4,66E+02	8,00E+02	3,22E+02	4,09E+00	0,00E+00	ND	ND	ND	ND	ND	ND	1,06E+00	8,01E+01	1,48E+01	1,98E+01	-1,08E+02

6) EN 15804+A2 disclaimer for Ionizing radiation, human health. This impact category deals mainly with the eventual impact of low-dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator; 7) SQP = Land use related impacts/soil quality.

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	1,37E+02	1,61E+00	5,53E+01	1,94E+02	4,38E+00	-6,76E+01	0,00E+00	ND	ND	ND	ND	ND	ND	9,56E-02	1,30E+00	1,40E+00	9,70E-02	2,12E+00
Renew. PER as material	MJ	0,00E+00	0,00E+00	3,96E+01	3,96E+01	0,00E+00	-3,96E+01	0,00E+00	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,70E+00
Total use of renew. PER	MJ	1,37E+02	1,61E+00	9,49E+01	2,34E+02	4,38E+00	-1,07E+02	0,00E+00	ND	ND	ND	ND	ND	ND	9,56E-02	1,30E+00	1,40E+00	9,70E-02	5,82E+00
Non-re. PER as energy	MJ	7,54E+02	1,02E+02	3,00E+02	1,16E+03	3,20E+02	1,83E+01	0,00E+00	ND	ND	ND	ND	ND	ND	1,51E+01	7,96E+01	5,95E+01	1,01E+01	-1,21E+02
Non-re. PER as material	MJ	0,00E+00	0,00E+00	2,61E+00	2,61E+00	0,00E+00	-2,61E+00	0,00E+00	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,21E+00
Total use of non-re. PER	MJ	7,54E+02	1,02E+02	3,03E+02	1,16E+03	3,20E+02	1,57E+01	0,00E+00	ND	ND	ND	ND	ND	ND	1,51E+01	7,96E+01	5,95E+01	1,01E+01	-1,20E+02
Secondary materials	kg	2,94E+01	4,52E-02	1,20E+01	4,14E+01	1,36E-01	8,19E-03	0,00E+00	ND	ND	ND	ND	ND	ND	6,27E-03	3,44E-02	2,93E-02	2,53E-03	-1,26E-01
Renew. secondary fuels	MJ	1,52E+02	5,28E-04	1,34E+00	1,53E+02	1,73E-03	3,70E-05	0,00E+00	ND	ND	ND	ND	ND	ND	1,64E-05	4,34E-04	3,80E-04	5,23E-05	-8,66E-04
Non-ren. secondary fuels	MJ	2,19E+02	0,00E+00	0,00E+00	2,19E+02	0,00E+00	0,00E+00	0,00E+00	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	1,57E+00	1,46E-02	8,54E-02	1,67E+00	4,81E-02	-4,50E-03	0,00E+00	ND	ND	ND	ND	ND	ND	9,98E-04	1,17E-02	6,57E-03	1,05E-02	-3,38E-01

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	5,74E+00	1,49E-01	6,30E-01	6,52E+00	5,39E-01	3,23E-02	0,00E+00	ND	ND	ND	ND	ND	ND	1,68E-02	1,15E-01	9,70E-02	1,11E-02	-9,13E-01
Non-hazardous waste	kg	4,41E+01	2,91E+00	1,45E+01	6,16E+01	9,98E+00	1,02E+01	0,00E+00	ND	ND	ND	ND	ND	ND	2,29E-01	2,31E+00	2,16E+00	2,54E-01	-1,74E+01
Radioactive waste	kg	8,97E-03	2,93E-05	3,22E-03	1,22E-02	6,80E-05	3,47E-06	0,00E+00	ND	ND	ND	ND	ND	ND	1,64E-06	2,37E-05	1,82E-05	1,54E-06	-2,37E-04

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	5,00E-01	5,00E-01	0,00E+00	0,00E+00	0,00E+00	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	3,80E+00	0,00E+00	5,00E-01	4,30E+00	0,00E+00	1,43E+00	0,00E+00	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	9,59E+02	0,00E+00	0,00E+00
Materials for energy rec	kg	2,24E-02	0,00E+00	0,00E+00	2,24E-02	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy	MJ	6,80E-03	0,00E+00	0,00E+00	6,80E-03	0,00E+00	7,10E+00	0,00E+00	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	2,99E+00	0,00E+00	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	4,11E+00	0,00E+00	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	1,37E+02	6,88E+00	9,56E+00	1,54E+02	2,11E+01	1,47E+00	-2,50E+01	ND	ND	ND	ND	ND	ND	1,15E+00	5,26E+00	4,52E+00	4,06E-01	-9,83E+00
Ozone depletion Pot.	kg CFC ₁₁ e	6,42E-07	1,12E-07	1,16E-07	8,70E-07	2,73E-07	1,71E-08	0,00E+00	ND	ND	ND	ND	ND	ND	1,40E-08	8,80E-08	5,46E-08	9,42E-09	-6,71E-08
Acidification	kg SO ₂ e	3,43E-01	2,43E-02	5,95E-02	4,27E-01	4,31E-02	8,10E-03	0,00E+00	ND	ND	ND	ND	ND	ND	7,32E-03	9,92E-03	3,02E-02	2,15E-03	-4,72E-02
Eutrophication	kg PO ₄ ³ e	5,05E-02	4,22E-03	4,14E-02	9,61E-02	1,03E-02	1,97E-03	0,00E+00	ND	ND	ND	ND	ND	ND	1,71E-03	2,48E-03	6,69E-03	6,83E-04	-8,89E-03
POCP ("smog")	kg C ₂ H ₄ e	2,26E-02	1,82E-03	4,07E-03	2,85E-02	4,10E-03	6,35E-04	0,00E+00	ND	ND	ND	ND	ND	ND	5,49E-04	1,01E-03	2,20E-03	2,03E-04	-4,06E-03
ADP-elements	kg Sbe	2,70E-04	1,84E-05	1,64E-05	3,04E-04	5,99E-05	9,92E-07	0,00E+00	ND	ND	ND	ND	ND	ND	4,02E-07	1,48E-05	3,13E-05	6,38E-07	-4,97E-05
ADP-fossil	MJ	7,36E+02	1,00E+02	1,03E+02	9,40E+02	3,15E+02	1,81E+01	0,00E+00	ND	ND	ND	ND	ND	ND	1,50E+01	7,80E+01	5,83E+01	9,95E+00	-1,06E+02

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 ₂ e	1,34E+02	6,93E+00	9,61E+00	1,50E+02	2,13E+01	1,38E+00	-2,50E+01	ND	ND	ND	ND	ND	ND	1,15E+00	5,30E+00	4,54E+00	4,10E-01	-9,89E+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. Electricity, medium voltage, residual mix, Sweden, Ecoinvent, 0.0512 kgCO₂e/kWh
2. Market for heat, district or industrial, other than natural gas, Albania, Ecoinvent, 0.0715 kgCO₂e/MJ

Transport scenario documentation - A4 (Transport resources)

1. Market for transport, freight, lorry >32 metric ton, EURO6, 201,6 km

Transport scenario documentation A4

Scenario parameter	Value
Capacity utilization (no empty returns) %	100
Bulk density of transported products, kg/m ³	1,54E+03
Volume capacity utilization factor	1

Installation scenario documentation - A5 (Installation resources)

1. Diesel, burned in building machine, Ecoinvent, 3.2 kWh

Installation scenario documentation - A5 (Installation waste)

1. Treatment of waste wood, post-consumer, sorting and shredding, Ecoinvent, Materials for recycling, 1.43 kg
2. Treatment of waste wood, post-consumer, sorting and shredding, Ecoinvent, 0.2 kg
3. Treatment of waste wood, untreated, municipal incineration, Ecoinvent, 1.34 kg
4. Exported Energy: Electricity, Ecoinvent, 2.99 MJ
5. Exported Energy: Thermal, Ecoinvent, 4.11 MJ
6. Treatment of waste wood, untreated, sanitary landfill, Ecoinvent, 1.6986 kg
7. Materials for re-use, Ecoinvent, 11.6 kg

End-of-life scenario documentation - C1-C4 (Data source)

1. Diesel, burned in building machine, Ecoinvent, 3.2 kWh
2. Treatment of waste concrete, not reinforced, recycling, Ecoinvent, Materials for recycling, 940.7 kg
3. Treatment of waste concrete, inert material landfill, Ecoinvent, 64.3 kg
4. Sorting and pressing of iron scrap, Ecoinvent, Materials for recycling, 18.7 kg
5. Treatment of scrap steel, inert material landfill, Ecoinvent, 1.3 kg

Scenario information	Value
Scenario assumptions e.g. transportation	Transported 50 km (recycling) and 50 km (landfill) by lorry

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 15804+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

Magaly Gonzalez Vazquez as an authorized verifier for EPD Hub Limited
15.03.2026

