ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

Solid Wall Element Level 3

Heidelberg Materials Precast Abetong

EPD HUB, HUB-6539

Published on 29.05.2026, last updated on 29.05.2026, valid until 28.05.2031

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	Heidelberg Materials Precast Abetong
Address	Box 24, 351 03 Växjö, Sweden
Contact details	info.precast.abetong.swe@heidelbergmaterials.com
Website	www.precastabetong.heidelbergmaterials.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	Sister EPD
Parent EPD number	HUB-6344
Scope of the EPD	Cradle to gate with options, A4, and modules C1-C4, D
EPD author	Andreas Lidö, Heidelberg Materials Precast Abetong
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal verification ☑ External verification
EPD verifier	Vera Durão, as an authorised verifier acting for EPD Hub Limited

PRODUCT

Product name	Solid Wall Element Level 3
Additional labels	Massivvägg (V) Nivå 3
Place(s) of raw material origin	Sweden
Place of production	Falkenberg, Sweden Kvicksund, Sweden
Place(s) of installation and use	Sweden
Period for data	01/2022-12/2022
Averaging in EPD	Multiple factories
Variation in GWP-fossil for A1-A3 (%)	10,0
A1-A3 Specific data (%)	95,3

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 metric ton
Declared unit mass	1000 kg
GWP-fossil, A1-A3 (kgCO2e)	96,9
GWP-total, A1-A3 (kgCO2e)	98,0
Secondary material, inputs (%)	8,89
Secondary material, outputs (%)	80,4
Total energy use, A1-A3 (kWh)	451
Net freshwater use, A1-A3 (m3)	119

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 AND MANUFACTURER

ABOUT THE MANUFACTURER

Heidelberg Materials Precast Abetong is one of Sweden's leading manufacturers of concrete elements and structural systems in low-carbon concrete.
We have over 80 years of experience in the industry, always look ahead – towards the sustainable construction of the future.
Our products are found in homes, schools, industries, agriculture and infrastructure around the country.

PRODUCT DESCRIPTION

Our Solid Wall element offers exceptional flexibility and performance for modern construction needs. These elements can be used as apartment-separating walls and in elevator shafts. Each wall is available in a wide range of thicknesses but typically 200 mm, heights, and lengths, tailored to meet the specific requirements of your project.
To streamline installation and reduce time on site, the walls can be delivered with integrated electrical installations as well as pre-formed openings for doors and windows. The solid wall elements can also be engineered to withstand earth pressure, making them an ideal solution for retaining applications such as garage walls.

Heidelberg Materials Precast Abetong's Solid Wall Element Level 3 is graded to level 3 (Net) according to Svensk Betongs bilaga 2 Prefabricerade betongprodukter - Vägledning Klimatförbättrad betong Utgåva 2.

Further information can be found at:
www.precastabetong.heidelbergmaterials.se

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	2,6	Europe
Minerals	97,4	Sweden
Fossil materials	-	-
Bio-based materials	-	-

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	-
Biogenic carbon content in packaging, kg C	-

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 metric ton
Mass per declared unit	1000 kg
Reference service life	100 years

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	ND	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 production of Solid Wall elements starts by manufacturing parts for the custom-made molds. At the same time, the reinforcement is prepared by bending and cutting meshes and bars into the designed dimensions. The casting table is cleaned before the molds are assembled. Reinforcement and cast-in-materials are mounted, form oil applied and the elements casted. As the concrete sets and reaches the right consistency, the surface treatment is applied (generally fine rolling). After curing the concrete reaches the designed demolding strength and the elements can be lifted to an intermediate storage area for quality control and finishing, before they are finally transported out into the storage yard ready for delivery to the construction site. The manufacturing process is similar for all our factories producing this type of product.

Losses during production are considered, waste concrete is either used for production of interlocking concrete blocks or disposed, assumed distance to disposal is 5 km. Waste, such as scrap metal from cutting mesh, packaging materials, materials from floor sweepings etc, are sent to a nearby disposal central, assumed distance 10 km. Transportation of raw materials and waste are done by lorry, mainly domestic transportation, specific distances used. No packaging materials for the product are used.

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.

The EPD for the binder is declared as "net"- emissions from combustion of waste fuels are not included.

TRANSPORT AND INSTALLATION (A4-A5)

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

After notification from the construction site, the elements are loaded onto lorries for transport. The transports are optimized for both efficient assembling at the construction site and reducing the number of required vehicles. Average distance of transportation from production plant to building site is assumed as 100 km and the transportation method is assumed to be lorry. Transportation does not cause losses. Optional A5 module is not declared.

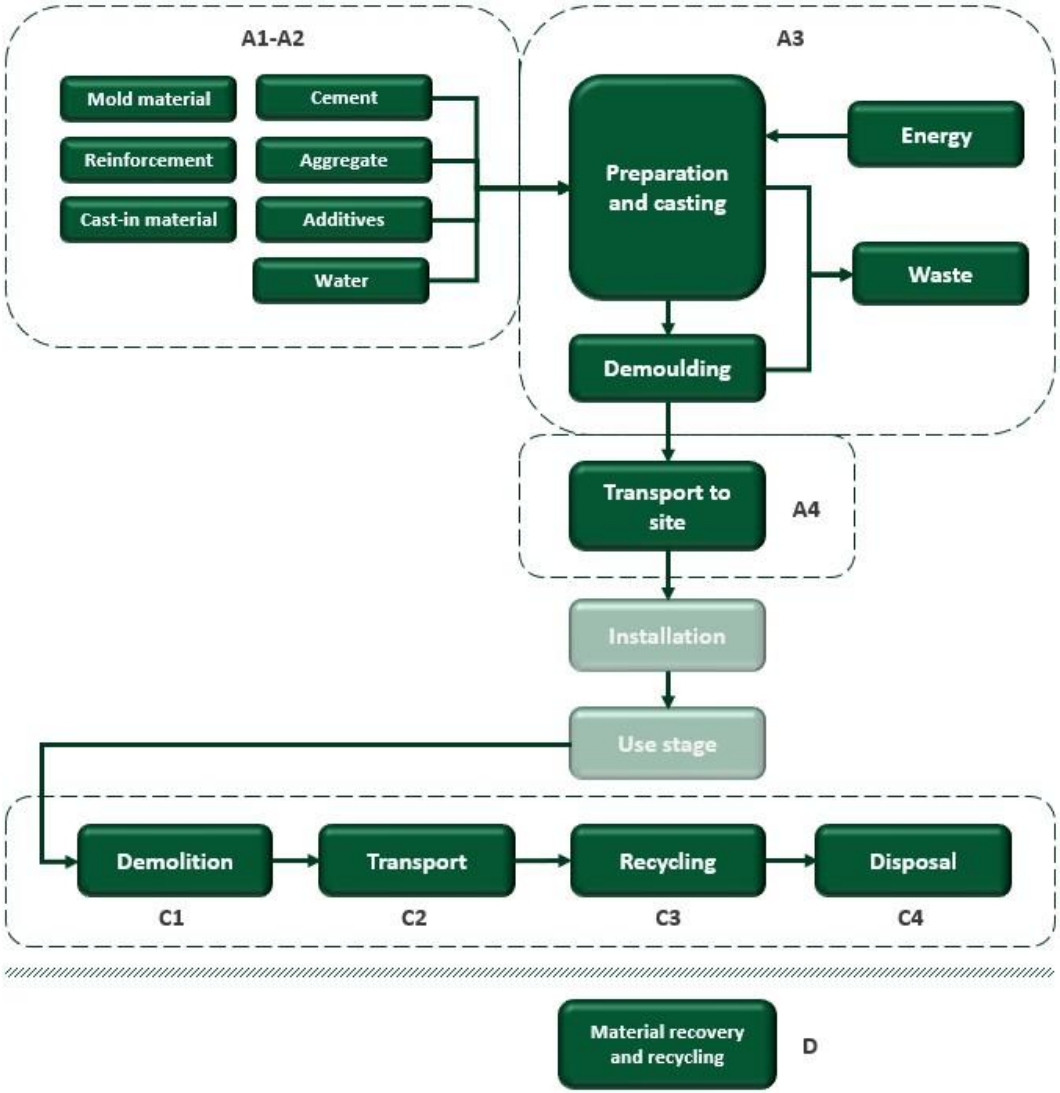
PRODUCT USE AND MAINTENANCE (B1-B7)

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)

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 (C1). The dismantled concrete elements are delivered to the nearest construction waste treatment plant (C2). At the waste treatment plant, 80% of the concrete and 95% of the steel are separated and diverted for further use. The waste may be reused, recycled or recovered for energy (C3). Unusable materials, 20% of the concrete and 5% of the steel, are disposed of in a landfill (C4). The separated concrete, about 779 kg, can be crushed and reused as filling material for example road construction. The separated steel can be melted and reused, 0 kg benefiting due to already being recycled (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.

Some minor ancillary materials like lubrication oils are not accounted for because they fall under the exclusion criteria.

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.

Supplier-specific upstream EPD data shows an inconsistency between ADP-fossil and non-renewable primary energy; the data is applied without modification in accordance with EN 15804+A2 and does not affect the overall interpretation.

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	Not applicable
Ancillary materials	Allocated by mass or volume
Manufacturing energy and waste	Allocated by mass or volume

PRODUCT & MANUFACTURING SITES GROUPING

Type of grouping	Multiple factories
Grouping method	Based on a representative product
Variation in GWP-fossil for A1-A3, %	10,0

The grouping is valid for Heidelberg Materials factories in Falkenberg and Kvicksund. Both produce the same type of Solid Wall element. Their contribution to the averaged EPD is based on each factory output of Solid Wall elements.

LCA SOFTWARE AND BIBLIOGRAPHY

This EPD has been created using One Click LCA EPD Generator for EPD Hub V3 and EPD System Verification 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‘.

[1)] Energy consumption of RC buildings during their life cycle by Ö. Bozdağ & M. Seçer

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_2e	8,45E+01	4,64E+00	8,86E+00	9,80E+01	1,03E+01	ND	ND	ND	ND	ND	ND	ND	ND	3,61E+00	5,17E+00	3,96E+00	1,22E+00	-7,30E+00
GWP – fossil	kg CO_2e	8,37E+01	4,64E+00	8,63E+00	9,69E+01	1,03E+01	ND	ND	ND	ND	ND	ND	ND	ND	3,60E+00	5,17E+00	3,97E+00	1,22E+00	-7,27E+00
GWP – biogenic	kg CO_2e	8,26E-01	1,00E-03	2,26E-01	1,05E+00	2,26E-03	ND	ND	ND	ND	ND	ND	ND	ND	3,68E-04	1,13E-03	-8,41E-03	-3,89E-04	-2,49E-02
GWP – LULUC	kg CO_2e	2,94E-02	1,97E-03	3,31E-03	3,47E-02	4,03E-03	ND	ND	ND	ND	ND	ND	ND	ND	3,69E-04	2,01E-03	1,04E-03	7,00E-04	-6,92E-03
Ozone depletion pot.	kg $CFC\text{-}_{11}e$	4,88E-07	8,94E-08	6,58E-07	1,24E-06	2,16E-07	ND	ND	ND	ND	ND	ND	ND	ND	5,52E-08	1,08E-07	5,96E-08	3,55E-08	-5,96E-08
Acidification potential	mol H^+e	2,36E-01	2,19E-02	6,61E-02	3,24E-01	2,44E-02	ND	ND	ND	ND	ND	ND	ND	ND	3,25E-02	1,22E-02	3,75E-02	8,68E-03	-4,59E-02
EP-freshwater[2)]	kg Pe	5,69E-03	3,16E-04	8,00E-04	6,81E-03	7,23E-04	ND	ND	ND	ND	ND	ND	ND	ND	1,04E-04	3,61E-04	4,71E-04	1,01E-04	-2,58E-03
EP-marine	kg Ne	9,06E-02	5,53E-03	2,07E-02	1,17E-01	6,40E-03	ND	ND	ND	ND	ND	ND	ND	ND	1,51E-02	3,20E-03	1,58E-02	3,31E-03	-1,10E-02
EP-terrestrial	mol Ne	8,65E-01	6,07E-02	2,07E-01	1,13E+00	6,93E-02	ND	ND	ND	ND	ND	ND	ND	ND	1,65E-01	3,46E-02	1,73E-01	3,61E-02	-1,33E-01
POCP ("smog")[3)]	kg NMVOCe	3,95E-01	2,59E-02	6,13E-02	4,82E-01	4,24E-02	ND	ND	ND	ND	ND	ND	ND	ND	4,93E-02	2,12E-02	5,16E-02	1,29E-02	-3,68E-02
ADP-minerals & metals[4)]	kg Sbe	5,84E-02	1,25E-05	6,09E-05	5,85E-02	2,96E-05	ND	ND	ND	ND	ND	ND	ND	ND	1,29E-06	1,48E-05	4,09E-05	1,94E-06	-4,53E-05
ADP-fossil resources	MJ	7,72E+02	6,81E+01	5,77E+02	1,42E+03	1,55E+02	ND	ND	ND	ND	ND	ND	ND	ND	4,72E+01	7,77E+01	5,22E+01	3,00E+01	-9,24E+01
Water use[5)]	m^3e depr.	1,31E+02	3,37E-01	5,22E+01	1,84E+02	7,95E-01	ND	ND	ND	ND	ND	ND	ND	ND	1,18E-01	3,98E-01	2,59E-01	8,67E-02	-1,18E+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	1,80E-06	4,25E-07	1,05E-06	3,27E-06	1,01E-06	ND	ND	ND	ND	ND	ND	ND	ND	9,25E-07	5,04E-07	6,76E-06	1,98E-07	-7,25E-07
Ionizing radiation[6)]	kBq U235e	1,23E+01	7,49E-02	2,41E+01	3,64E+01	1,87E-01	ND	ND	ND	ND	ND	ND	ND	ND	2,09E-02	9,36E-02	8,48E-02	1,89E-02	-7,26E-01
Ecotoxicity (freshwater)	CTUe	2,20E+02	8,08E+00	2,19E+02	4,48E+02	1,83E+01	ND	ND	ND	ND	ND	ND	ND	ND	2,60E+00	9,15E+00	3,95E+01	2,52E+00	-2,26E+02
Human toxicity, cancer	CTUh	1,65E-07	7,96E-10	4,52E-09	1,70E-07	1,72E-09	ND	ND	ND	ND	ND	ND	ND	ND	3,71E-10	8,61E-10	8,46E-10	2,26E-10	-2,05E-09
Human tox. non-cancer	CTUh	1,47E-07	4,20E-08	8,27E-08	2,72E-07	1,00E-07	ND	ND	ND	ND	ND	ND	ND	ND	5,87E-09	5,02E-08	3,95E-08	5,18E-09	-5,96E-08
SQP[7)]	-	1,03E+02	6,37E+01	3,14E+01	1,98E+02	1,56E+02	ND	ND	ND	ND	ND	ND	ND	ND	3,30E+00	7,82E+01	1,76E+01	5,92E+01	-8,67E+01

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	1,53E+02	1,04E+00	2,34E+01	1,78E+02	2,53E+00	ND	ND	ND	ND	ND	ND	ND	ND	2,99E-01	1,26E+00	1,67E+00	2,90E-01	-8,93E+00
Renew. PER as material	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	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 renew. PER	MJ	1,53E+02	1,04E+00	2,34E+01	1,78E+02	2,53E+00	ND	ND	ND	ND	ND	ND	ND	ND	2,99E-01	1,26E+00	1,67E+00	2,90E-01	-8,93E+00
Non-re. PER as energy	MJ	5,92E+02	6,81E+01	5,72E+02	1,23E+03	1,55E+02	ND	ND	ND	ND	ND	ND	ND	ND	4,72E+01	7,77E+01	5,22E+01	3,00E+01	-9,24E+01
Non-re. PER as material	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	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	5,92E+02	6,81E+01	5,72E+02	1,23E+03	1,55E+02	ND	ND	ND	ND	ND	ND	ND	ND	4,72E+01	7,77E+01	5,22E+01	3,00E+01	-9,24E+01
Secondary materials	kg	8,89E+01	3,01E-02	2,29E-02	8,90E+01	6,72E-02	ND	ND	ND	ND	ND	ND	ND	ND	1,96E-02	3,36E-02	2,77E-02	7,55E-03	-1,04E-01
Renew. secondary fuels	MJ	9,26E+01	3,49E-04	3,24E-04	9,26E+01	8,47E-04	ND	ND	ND	ND	ND	ND	ND	ND	5,12E-05	4,24E-04	4,78E-04	1,56E-04	-7,63E-04
Non-ren. secondary fuels	MJ	1,23E+02	0,00E+00	0,00E+00	1,23E+02	0,00E+00	ND	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	1,19E+02	9,68E-03	5,57E-01	1,19E+02	2,29E-02	ND	ND	ND	ND	ND	ND	ND	ND	3,12E-03	1,15E-02	6,33E-03	3,12E-02	-2,72E-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	3,75E+00	1,02E-01	3,40E-01	4,19E+00	2,25E-01	ND	ND	ND	ND	ND	ND	ND	ND	5,25E-02	1,12E-01	9,95E-02	3,32E-02	-7,25E-01
Non-hazardous waste	kg	3,07E+01	1,96E+00	1,62E+02	1,94E+02	4,50E+00	ND	ND	ND	ND	ND	ND	ND	ND	7,15E-01	2,25E+00	2,64E+00	7,58E-01	-1,42E+01
Radioactive waste	kg	8,57E-03	1,85E-05	9,34E-03	1,79E-02	4,63E-05	ND	ND	ND	ND	ND	ND	ND	ND	5,12E-06	2,32E-05	2,15E-05	4,61E-06	-1,77E-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	1,17E-01	0,00E+00	0,00E+00	1,17E-01	0,00E+00	ND	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	4,90E+00	0,00E+00	0,00E+00	4,90E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	8,04E+02	0,00E+00	0,00E+00
Materials for energy rec	kg	4,21E-02	0,00E+00	0,00E+00	4,21E-02	0,00E+00	ND	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	6,19E-01	0,00E+00	0,00E+00	6,19E-01	0,00E+00	ND	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	ND	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	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

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	8,37E+01	4,64E+00	8,63E+00	9,70E+01	1,03E+01	ND	ND	ND	ND	ND	ND	ND	ND	3,61E+00	5,17E+00	3,97E+00	1,22E+00	-7,27E+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.

With emissions from combustion of waste fuels for the binders included would give a GWP-GHG = 107 kg CO_2e (gross).

SCENARIO DOCUMENTATION

MANUFACTURING ENERGY SCENARIO DOCUMENTATION

Data sources	Value
Electricity, Sweden, residual mix, 2022, Sweden, One Click LCA	0,0917 kgCO2e/kWh
Heat production, light fuel oil, at boiler 100kW, non-modulating, Ecoinvent	0,10 kgCO2e/MJ
Market for diesel, burned in building machine, Ecoinvent	0,10 kgCO2e/MJ
Market for biogas, Ecoinvent	0,41 kgCO2e/m3

TRANSPORTATION SCENARIO DOCUMENTATION – A4

Data parameter	Value
Market for transport, freight, lorry >32 metric ton, EURO6	0,10 kgCO2e/tkm
Average transportation distance	100 km
Capacity utilization (including empty return)	50 %
Volume capacity utilization factor	1

END OF LIFE SCENARIO DOCUMENTATION – C1 TO C4

Scenario information	Value
Collection process – kg collected separately	1000 kg
Recovery process – kg for recycling	Treatment of waste concrete, not reinforced, recycling, Ecoinvent, 779,1 kg
	Sorting and pressing of iron scrap, Ecoinvent, 24,9 kg
Disposal (total) – kg for final deposition	Treatment of waste concrete, inert material landfill, Ecoinvent, 194,8 kg
	Treatment of scrap steel, inert material landfill, Ecoinvent, 1,2 kg
Scenario assumptions e.g. demolition	Market for diesel, burned in building machine, Ecoinvent, 10,0[1)] kWh/metric ton.
Scenario assumptions e.g. transportation	Waste from demolition assumed to be transported 50 km by >32 metric ton EURO6.

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

Vera Durão, as an authorised verifier acting for EPD Hub Limited

29.05.2026

VERIFIED ISO 14025