



ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

Bemix F4
Finja Bemix AB



EPD HUB, HUB-5734

Published on 20.03.2026, last updated on 20.03.2026, valid until 19.03.2031

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	Finja Bemix Aktiebolag
Address	Finvids väg 6, 194 47, Upplands Väsby, SE
Contact details	info@bemix.se
Website	www.bemix.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 SS-EN 16908 Cement och byggkalk
Sector	Construction product
Category of EPD	Category of EPD Third party verified EPD
Parent EPD number	-
Scope of the EPD	Cradle to gate with modules A4-A5, C1-C4, D
EPD author	Cecilia Söderman
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	Yazan Badour 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	Bemix F4
Additional labels	
Product reference	1100200, 1100340
Place(s) of raw material origin	Sweden and EU
Place of production	Finja and Strängnäs in Sweden
Place(s) of installation and use	Sverige, Norway and Denmark
Period for data	Calendar year 2023
Averaging in EPD	Multiple factories
Variation in GWP-fossil for A1-A3 (%)	±<10
GTIN (Global Trade Item Number)	-
NOBB (Norwegian Building Product Database)	-
A1-A3 Specific data (%)	11,4

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 metric ton
Declared unit mass	1000 kg
Mass of packaging	30 kg
GWP-fossil, A1-A3 (kgCO ₂ e)	347
GWP-total, A1-A3 (kgCO ₂ e)	346
Secondary material, inputs (%)	0,75
Secondary material, outputs (%)	60,3
Total energy use, A1-A3 (kWh)	637
Net freshwater use, A1-A3 (m ³)	2,74

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

Bemix is part of Finja AB and we develop and manufacture high-tech special mortars for professionals. Finja Bemix AB primarily develops and supplies special dry mortars to the construction industry and has a wide range of high-tech and specially adapted expansion mortars. The products are aimed at professionals, and their areas of use include everything from advanced substructures for machines, crane runways, traverses, columns and bridge bearings to anchor bolts in rock and jointing of prefabricated concrete elements. Deliveries are made from factories in Sweden. At Bemix, we believe in a sustainable future and want to contribute to a safe and stable society. Therefore, we continue to develop products with a strong focus on environmentally friendly products and the production that makes the choice of materials easy for our customers.

PRODUCT DESCRIPTION

Bemix F4 is a thixotropic, expanding and pumpable dry-mix jointing grout designed for sealing and jointing concrete elements and granite blocks. Its thixotropic consistency makes it particularly suitable for vertical joints, where it provides reliable filling and stability. The product can be applied either with pumping equipment or manually and is also well suited for horizontal joints and other types of cast joints.

Bemix F4 achieves a compressive strength of > 40 MPa after 28 days at +20 °C, tested in accordance with EN 12190.

Further information can be found at:
www.bemix.se

PRODUCT RAW MATERIAL MAIN COMPOSITION

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

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	0,016
Biogenic carbon content in packaging, kg C	0,289

FUNCTIONAL UNIT AND SERVICE LIFE

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

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

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.

A market-based approach is used in modelling the electricity mix utilized in the factory.

Dry concrete is produced in a controlled industrial process to ensure consistent quality and performance. The production process starts with the preparation and careful dosing of raw materials such as cement, sand, aggregates and additives according to a defined recipe. Approximately 5% of the sand fraction is separated during sorting and reused internally in other production processes, reducing the demand for primary raw materials. Production losses consist mainly of dust, fines and negligible residual fractions from mixer cleaning; these are collected and treated as mineral waste.

All raw materials are transported to the plant using standard heavy-duty trucks, EURO6. Standard transport assumptions and distances from the applicable PCR are used where supplier-specific data are not available (e.g. typical range 1–2000 km depending on the origin of the material). Transport fuel is conventional diesel unless otherwise specified by suppliers.

The mixing process is powered by electricity and internally used thermal energy from drying the aggregates with propane. The electricity mix corresponds to the national grid mix at the production site. Energy is consumed for material handling, dosing systems, mixers, dust collection equipment and packaging machines. Energy consumption data is based on primary production data from Finja Betong AB.

After mixing, the dry concrete mix is packed in bags made of plastic and placed on wooden pallets. Packaging materials are included in the life cycle assessment and modelled according to PCR rules. Packaging waste generated on site during production (e.g. damaged bags, film residues) is collected and treated as waste for recycling or energy recovery.

The management of production waste follows PCR requirements: mineral waste (e.g. dust, screened fines) is transported to a local recycling or waste disposal facility (module C2 transport is assumed to be 20-50 km depending on regional infrastructure). Non-mineral waste, such as damaged packaging, is sent to appropriate recycling or waste management streams. All waste

transport from the factory (A3 waste → C2) is included in the model. When the finished dry concrete bags are packed and palletized, they are stored at the factory before outbound distribution. Transport directly to construction sites is modeled in module A4, not A3.

All manufacturing data comes from the producer, Finja Betong AB.

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 transport distance from the factory in Strängnäs to the workplace is 154 km (average) and from the warehouse in Finja to the workplace 196 km (average). The product is moved between Strängnäs and Finja (480 km). Transportation is assumed to be carried out by Euro 6 lorries, with full vehicle load capacity (100% volume utilization). While actual loading conditions may vary, this variation is considered negligible due to the relatively small contribution of transport emissions to the overall environmental impact. No product losses occur during transport, as the goods are properly secured and handled.

Very small losses during installation will occur when handling the product correctly.

The packaging materials, wood and plastic, are collected and transported to the nearest waste treatment facility (50km) where 40% of plastic and 32% of wood is recycled, 37% of plastic and 30% of wood are incinerated and 23% of plastic and 38% of wood end up in landfill.

PRODUCT USE AND MAINTENANCE (B1-B7)

Carbonation of concrete during a reference service life of 100 years is included as per EN 16757, Annex BB for a residential building with cover. During the use stage (Modules B1–B7), the installed and fully hardened product is assumed to remain inert and does not require any maintenance, repair, replacement, or refurbishment throughout the Reference Service Life (RSL). No operational energy (B6) or operational water (B7) is used, as the product does not consume resources during service.

No waste is generated in the use stage, and therefore no transport related to waste handling occurs. Carbonation during the RSL is considered only where technically applicable and modelled in alignment with the relevant standards.

All transportation activities occur outside the use stage: A4 transport delivers the product to the construction site, and C2 transport handles the movement of material at the end-of-life stage. No transport processes are associated with the use stage itself.

Air, soil, and water impacts during the use phase have not been studied.

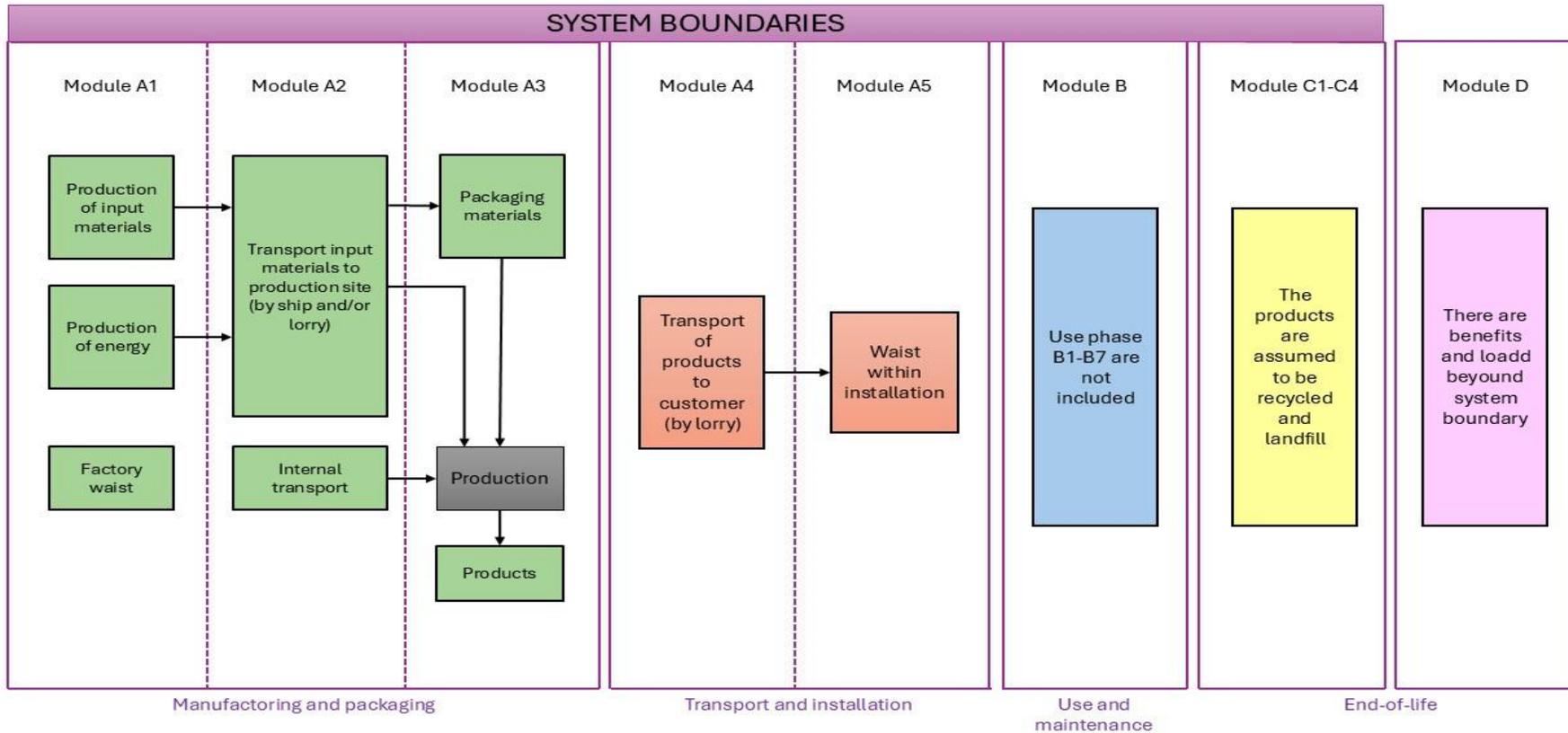
PRODUCT END OF LIFE (C1-C4, D)

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. Energy consumption of a demolition process is on the average 10 kWh/m² (Bozdağ, Ö & Seçer, M. 2007). Basing on a Level(s) project, an average mass of a reinforced concrete building is about 1000 kg/m². Therefore, energy consumption demolition is assumed to be 10 kWh/1000 kg = 0,01 kWh/kg. The source of energy is diesel fuel used by work machines (C1).

The demolished masonry mortar is transported to the nearest waste treatment facility, 50km, where it is crushed and sorted. Depending on its quality and local regulations, the material can be used either as landfill or as recycled aggregate in new concrete production.

Environmental benefits related to material recovery and substitution occur outside the system boundaries and are reported under Module D.

SYSTEM DIAGRAM



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.

Very small amounts of lubricating oil are used for the trucks that unload incoming material, 0.001kg, and therefore the gross weight falls below the cut-off rule.

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	Multiple factories
Grouping method	Baserat på genomsnittresultat för produktgrupp - efter total massa
Variation in GWP-fossil for A1-A3, %	±<10

This EPD is weighted average, using annual production volume for each production site. It covers the same product produced in Finja Betongs factories in Finja and Strängnäs. The products specific GWP-fossil interval from each factory is from 3,39+E2 to 3,69+E2 kg CO2-e per metric ton. The variations in GWP fossil between Finja and Strängnäs are mainly due to differences in raw material composition, energy mix, internal processes and

transport logistics. The differences are within normal industrial variation and reflect natural changes in raw materials and production conditions.

LCA SOFTWARE AND BIBLIOGRAPHY

This EPD has been created using One Click LCA EPD Generator for EPD Hub V3 and EPD Process Certification v3.2.4. The LCA and EPD have been prepared according to the reference standards and ISO 14040/14044. The EPD Generator uses Ecoinvent v3.10.1/3.11/3.12 and One Click LCA databases as sources of environmental data. Allocation used in Ecoinvent 3.10.1/3.11/3.12 environmental data sources follow the methodology 'allocation, Cut-off, EN 15804+A2'.

Plastic packaging - Exported energy - Debunking Efficient Recovery: The Performance of EU Incineration Facilities, 2023

<https://zerowasteeurope.eu/wp-content/uploads/2023/01/Debunking-Efficient-Recovery-Full-Report-EN.docx.pdf>

Plastic packaging - Packaging waste treatment - EUROSTAT,

https://ec.europa.eu/eurostat/databrowser/view/env_waspac__custom_8519242/default/table?lang=en

Wood packaging - Packaging waste treatment - EUROSTAT,

https://ec.europa.eu/eurostat/databrowser/view/env_waspac__custom_8519174/default/table?lang=en

Wood packaging - Exported energy - Debunking Efficient Recovery: The Performance of EU Incineration Facilities, 2023

<https://zerowasteeurope.eu/wp-content/uploads/2023/01/Debunking-Efficient-Recovery-Full-Report-EN.docx.pdf>

Demolition of concrete - Gervasio, H. & Dimova, S., JRC Technical report: Model for Life Cycle Assessment (LCA) of buildings, 201

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	2,91E+02	1,22E+01	4,33E+01	3,46E+02	9,22E+00	7,75E+00	ND	1,00E+00	9,49E+00	3,06E+00	1,87E+00	-2,86E+01						
GWP – fossil	kg CO ₂ e	2,91E+02	1,22E+01	4,42E+01	3,47E+02	9,22E+00	6,68E+00	ND	1,00E+00	9,49E+00	3,06E+00	1,87E+00	-1,71E+01						
GWP – biogenic	kg CO ₂ e	5,95E-02	2,30E-03	-1,04E+00	-9,82E-01	0,00E+00	1,07E+00	ND	1,02E-04	5,72E-04	0,00E+00	-5,96E-04	-1,15E+01						
GWP – LULUC	kg CO ₂ e	6,04E-02	4,69E-03	1,29E-01	1,94E-01	3,59E-03	5,58E-04	ND	1,03E-04	3,41E-03	3,14E-04	1,07E-03	-1,70E-02						
Ozone depletion pot.	kg CFC ₋₁₁ e	1,22E-06	2,37E-07	1,02E-06	2,48E-06	1,92E-07	6,75E-09	ND	1,53E-08	1,89E-07	4,69E-08	5,42E-08	-3,34E-07						
Acidification potential	mol H ⁺ e	6,32E-01	4,88E-02	1,13E-01	7,93E-01	2,18E-02	2,71E-03	ND	9,04E-03	1,97E-02	2,76E-02	1,33E-02	-9,15E-02						
EP-freshwater ²⁾	kg Pe	3,18E-02	7,94E-04	6,00E-03	3,86E-02	6,44E-04	1,21E-04	ND	2,89E-05	6,39E-04	8,84E-05	1,54E-04	-6,29E-03						
EP-marine	kg Ne	1,82E-01	1,14E-02	2,85E-02	2,22E-01	5,71E-03	1,47E-03	ND	4,19E-03	4,74E-03	1,28E-02	5,06E-03	-1,80E-02						
EP-terrestrial	mol Ne	2,05E+00	1,25E-01	2,98E-01	2,48E+00	6,17E-02	9,90E-03	ND	4,59E-02	5,12E-02	1,40E-01	5,53E-02	-2,02E-01						
POCP (“smog”) ³⁾	kg NMVOCe	5,77E-01	5,68E-02	1,61E-01	7,95E-01	3,78E-02	3,00E-03	ND	1,37E-02	3,29E-02	4,19E-02	1,98E-02	-7,62E-02						
ADP-minerals & metals ⁴⁾	kg Sbe	8,92E-04	3,87E-05	1,91E-04	1,12E-03	2,64E-05	3,02E-06	ND	3,59E-07	3,16E-05	1,10E-06	2,98E-06	-8,18E-05						
ADP-fossil resources	MJ	1,20E+03	1,70E+02	9,38E+02	2,31E+03	1,38E+02	6,19E+00	ND	1,31E+01	1,34E+02	4,01E+01	4,60E+01	-3,20E+02						
Water use ⁵⁾	m ³ e depr.	2,69E+01	8,25E-01	1,69E+01	4,46E+01	7,09E-01	7,13E+00	ND	3,27E-02	6,64E-01	1,00E-01	1,33E-01	-1,34E+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	3,79E-06	8,52E-07	1,34E-06	5,98E-06	8,99E-07	2,99E-08	ND	2,57E-07	6,99E-07	5,99E-06	3,02E-07	-1,05E-06						
Ionizing radiation ⁶⁾	kBq 11235e	9,39E+00	2,11E-01	1,11E+01	2,07E+01	1,67E-01	4,97E-02	ND	5,80E-03	1,72E-01	1,78E-02	2,89E-02	-2,58E+00						
Ecotoxicity (freshwater)	CTUe	1,70E+02	2,21E+01	1,11E+02	3,02E+02	1,63E+01	3,30E+00	ND	7,21E-01	1,78E+01	2,21E+00	3,86E+00	-4,08E+01						
Human toxicity, cancer	CTUh	3,38E-08	2,10E-09	8,52E-09	4,44E-08	1,54E-09	4,55E-10	ND	1,03E-10	1,59E-09	3,15E-10	3,45E-10	-3,89E-09						
Human tox. non-cancer	CTUh	1,86E-06	1,03E-07	2,26E-07	2,19E-06	8,95E-08	1,82E-08	ND	1,63E-09	8,45E-08	4,99E-09	7,93E-09	-1,36E-07						
SQP ⁷⁾	-	2,71E+02	9,62E+01	2,11E+02	5,78E+02	1,39E+02	4,38E+00	ND	9,18E-01	8,07E+01	2,81E+00	9,05E+01	-1,22E+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	9,64E+01	2,88E+00	1,12E+02	2,11E+02	2,25E+00	-1,05E+01	ND	8,30E-02	2,34E+00	2,54E-01	4,44E-01	5,06E+01						
Renew. PER as material	MJ	0,00E+00	0,00E+00	9,43E+00	9,43E+00	0,00E+00	-9,43E+00	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,01E+02						
Total use of renew. PER	MJ	9,64E+01	2,88E+00	1,22E+02	2,21E+02	2,25E+00	-1,99E+01	ND	8,30E-02	2,34E+00	2,54E-01	4,44E-01	1,51E+02						
Non-re. PER as energy	MJ	1,18E+03	1,70E+02	7,35E+02	2,08E+03	1,38E+02	-1,96E+02	ND	1,31E+01	1,34E+02	4,01E+01	4,60E+01	-3,20E+02						
Non-re. PER as material	MJ	6,29E+00	0,00E+00	1,31E+02	1,37E+02	0,00E+00	-1,31E+02	ND	0,00E+00	0,00E+00	-4,40E+00	-1,89E+00	9,17E+01						
Total use of non-re. PER	MJ	1,18E+03	1,70E+02	8,66E+02	2,22E+03	1,38E+02	-3,27E+02	ND	1,31E+01	1,34E+02	3,57E+01	4,41E+01	-2,29E+02						
Secondary materials	kg	7,47E+00	8,02E-02	2,44E-01	7,79E+00	5,99E-02	1,93E-02	ND	5,44E-03	6,20E-02	1,66E-02	1,16E-02	1,99E+00						
Renew. secondary fuels	MJ	2,79E-03	9,40E-04	4,96E-01	4,99E-01	7,55E-04	5,68E-04	ND	1,42E-05	7,84E-04	4,35E-05	2,39E-04	-8,77E-04						
Non-ren. secondary fuels	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00						
Use of net fresh water	m ³	2,31E+00	2,25E-02	4,13E-01	2,74E+00	2,04E-02	1,60E-01	ND	8,66E-04	1,82E-02	2,65E-03	4,78E-02	-3,47E-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	5,27E+00	2,48E-01	1,41E+00	6,93E+00	2,00E-01	8,41E-02	ND	1,46E-02	1,94E-01	4,46E-02	5,08E-02	-1,22E+00						
Non-hazardous waste	kg	1,60E+02	5,11E+00	1,19E+02	2,84E+02	4,01E+00	1,19E+01	ND	1,99E-01	4,10E+00	6,08E-01	1,16E+00	-7,04E+01						
Radioactive waste	kg	2,75E-03	5,24E-05	2,43E-03	5,24E-03	4,13E-05	1,27E-05	ND	1,42E-06	4,28E-05	4,35E-06	7,04E-06	-6,53E-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	5,93E-05	0,00E+00	2,30E-02	2,31E-02	0,00E+00	2,31E-05	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00						
Materials for recycling	kg	8,27E-04	0,00E+00	0,00E+00	8,27E-04	0,00E+00	2,24E+00	ND	0,00E+00	0,00E+00	7,00E+02	0,00E+00	0,00E+00						
Materials for energy rec	kg	2,98E-03	0,00E+00	6,29E-01	6,32E-01	0,00E+00	6,32E-04	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	3,10E+01	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	1,31E+01	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	1,80E+01	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	2,89E+02	1,21E+01	4,40E+01	3,45E+02	9,16E+00	6,69E+00	ND	9,96E-01	9,43E+00	3,05E+00	1,86E+00	-1,69E+01						
Ozone depletion Pot.	kg CFC ₁₁ e	8,81E-07	1,88E-07	8,28E-07	1,90E-06	1,53E-07	5,41E-09	ND	1,21E-08	1,50E-07	3,72E-08	4,31E-08	-2,74E-07						
Acidification	kg SO ₂ e	4,79E-01	3,93E-02	9,01E-02	6,09E-01	1,73E-02	2,04E-03	ND	6,36E-03	1,59E-02	1,94E-02	9,83E-03	-7,43E-02						
Eutrophication	kg PO ₄ ³ e	1,70E-01	6,83E-03	1,60E-01	3,37E-01	4,31E-03	7,59E-04	ND	1,48E-03	4,01E-03	4,54E-03	3,12E-03	-1,65E-02						
POCP (“smog”)	kg C ₂ H ₄ e	3,16E-02	3,00E-03	1,12E-02	4,58E-02	1,76E-03	1,86E-04	ND	4,76E-04	1,68E-03	1,46E-03	9,29E-04	-6,37E-03						
ADP-elements	kg Sbe	3,18E-04	3,78E-05	1,88E-04	5,44E-04	2,58E-05	2,37E-06	ND	3,49E-07	3,09E-05	1,07E-06	2,92E-06	-8,07E-05						
ADP-fossil	MJ	1,02E+03	1,66E+02	7,85E+02	1,97E+03	1,36E+02	5,35E+00	ND	1,30E+01	1,31E+02	3,98E+01	4,55E+01	-2,76E+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	2,91E+02	1,22E+01	4,43E+01	3,47E+02	9,22E+00	6,68E+00	ND	1,00E+00	9,49E+00	3,06E+00	1,87E+00	-1,71E+01						

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. Diesel, burned in building machine, World, Ecoinvent, 0.10 kgCO₂e/MJ
2. Diesel, burned in building machine, World, Ecoinvent, 0.10 kgCO₂e/MJ
3. Heat production, propane, at industrial furnace >100kW, World, Ecoinvent, 0.0945 kgCO₂e/MJ
4. Heat production, propane, at industrial furnace >100kW, World, Ecoinvent, 0.0945 kgCO₂e/MJ
5. Market for electricity, medium voltage, Sweden, Ecoinvent, 0.0295 kgCO₂e/kWh
6. Market for electricity, medium voltage, Sweden, Ecoinvent, 0.0295 kgCO₂e/kWh

Transport scenario documentation - A4 (Transport resources)

1. Market for transport, freight, lorry >32 metric ton, EURO6, 90,86 km
2. Market for transport, freight, lorry >32 metric ton, EURO6, 80,36 km

Transport scenario documentation A4

Scenario parameter	Value
Capacity utilization (including empty return) %	50
Bulk density of transported products	2,06E+03
Volume capacity utilization factor	<1

Installation scenario documentation - A5 (Installation resources)

1. Market for tap water, Ecoinvent, 160.0 kg

Installation scenario documentation - A5 (Installation waste)

1. Direct emission to air: Water, One Click LCA, 0.16 m³
2. Treatment of waste polyethylene, for recycling, unsorted, sorting, Ecoinvent, Material for recycling, 2.0 kg

3. Treatment of waste polyethylene, municipal incineration, Ecoinvent, 1.85 kg
4. Exported Energy: Electricity, Ecoinvent, 12.55 MJ
5. Exported Energy: Electricity, Ecoinvent, 0.5 MJ
6. Exported Energy: Thermal, Ecoinvent, 17.3 MJ
7. Exported Energy: Thermal, Ecoinvent, 0.69 MJ
8. Treatment of waste polyethylene, sanitary landfill, Ecoinvent, 1.15 kg
9. Treatment of waste wood, post-consumer, sorting and shredding, Ecoinvent, Material for recycling, 0.24 kg
10. Treatment of waste wood, untreated, municipal incineration, Ecoinvent, 0.22 kg
11. Treatment of waste wood, untreated, sanitary landfill, Ecoinvent, 0.29 kg

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

1. Diesel, burned in building machine, Ecoinvent, 10.0 MJ
2. Treatment of waste concrete, not reinforced, recycling, Ecoinvent, Material for recycling, 700.0 kg
3. Treatment of waste concrete, inert material landfill, Ecoinvent, 300.0 kg

Scenario information	Value
Scenario assumptions e.g. transportation	50 km 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

Yazan Badour as an authorized verifier for EPD Hub Limited 20.03.2026

