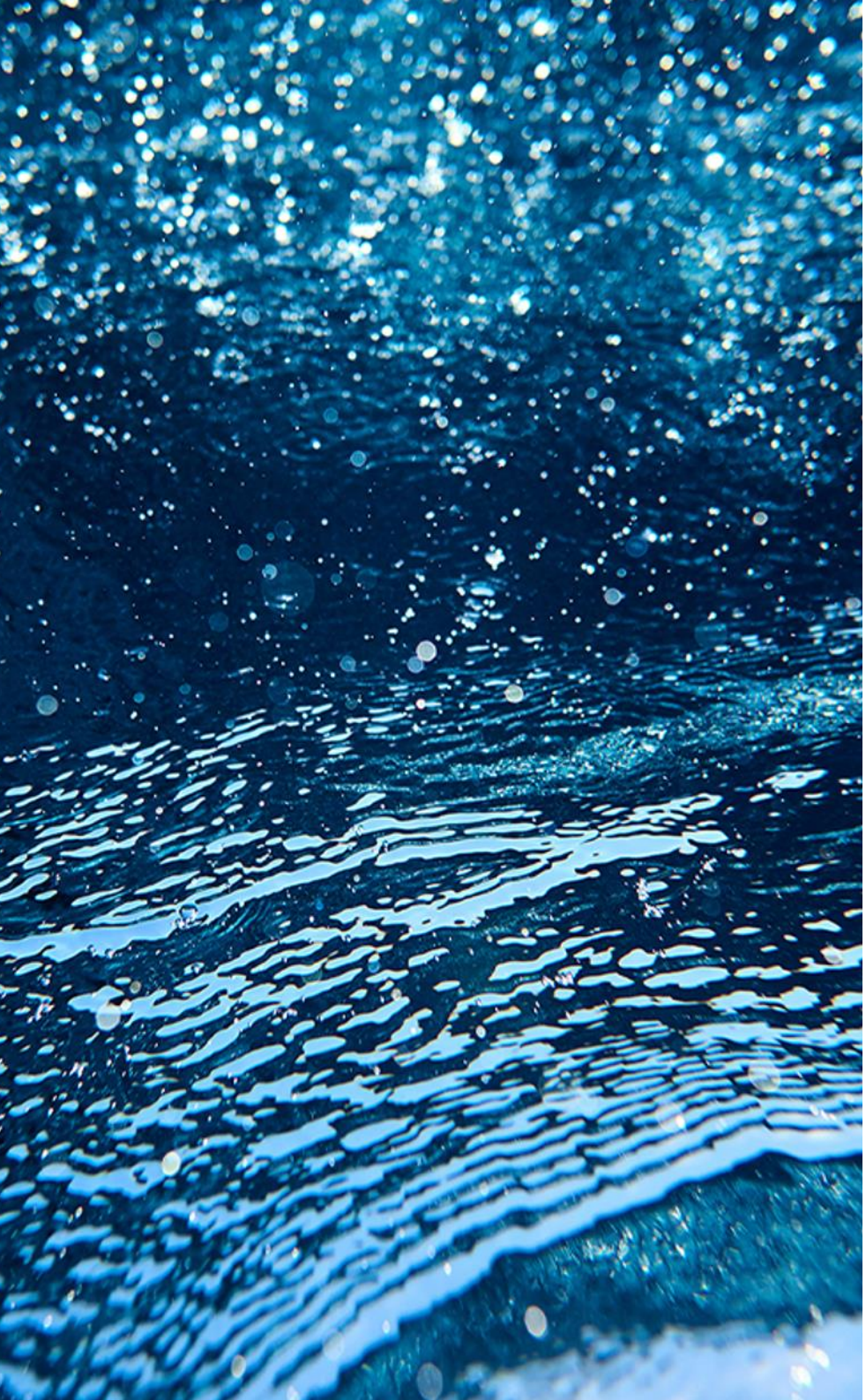


ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

LK 551 HydroMix
LK Armatur AB

EPD HUB, HUB-6964
Published on 15.07.2026, last updated on 15.07.2026, valid until 14.07.2031

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	LK Armatur AB
Address	Garnisonsgatan 49, 254 66, Helsingborg, Sweden
Contact details	info@lkarmatur.se
Website	https://www.lkarmatur.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
Sector	Construction product
Category of EPD	Third party verified EPD
Parent EPD number	
Scope of the EPD	Cradle to gate with options, A4-A5, and modules C1-C4, D
EPD author	Elisabeth Johansson
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal verification ☑ External verification
EPD verifier	Elena Antuña-Bernardo 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	LK 551 HydroMix
Additional labels	
Product reference	
Place(s) of raw material origin	Sweden, Italy, France and Finland
Place of production	Helsingborg, Sweden
Place(s) of installation and use	Sweden
Period for data	01/2024-12/2024
Averaging in EPD	Multiple products
Variation in GWP-fossil for A1-A3 (%)	19%
GTIN (Global Trade Item Number)	-
NOBB (Norwegian Building Product Database)	-
A1-A3 Specific data (%)	9,52

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 kg LK 551
Declared unit mass	1 kg
Mass of packaging	0,035 kg
GWP-fossil, A1-A3 ($kgCO_2e$)	3,34
GWP-total, A1-A3 ($kgCO_2e$)	3,36
Secondary material, inputs (%)	103
Total energy use, A1-A3 (kWh)	14,4
Net freshwater use, A1-A3 (m^3)	0,05

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

PRODUCT DESCRIPTION

LK 551 HydroMix is an asymmetrical mixing valve for domestic hot water and heating systems. The mixing valve has a thermostatic element that regulates the supply of cold and hot water in order to achieve the desired temperature.
The valve has an anti-scald function that shuts off the incoming hot water flow in case of failure of cold water supply.
The product range includes thermostatic mixing valves with female threaded connections in sizes ½"–1", male threaded connections in sizes ½"–1¼", and compression fitting connections in 15 mm and 22 mm. All product variants within these connection types and dimensions are covered by this EPD.
Article 181454, the best-selling product within the range, was selected as the reference product. The material composition, manufacturing processes and environmental performance of the reference product are representative of the entire product range covered by this EPD.

Further information can be found at:
https://www.lkarmatur.se

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	91	Italy, France and Finland
Minerals	0	
Fossil materials	9	Sweden
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	0,0148

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 kg LK 551
Mass per declared unit	1 kg
Functional unit	-
Reference service life	-

SUBSTANCES, REACH - VERY HIGH CONCERN

Substances of very high concern	EC	CAS
Lead	231-100-4	7439-92-1

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.
Raw materials and components are sourced from suppliers located in Sweden, Italy, France and Finland. Transportation to the assembly facility in Helsingborg, Sweden, is primarily carried out by road freight. Supplier-specific transport distances were used where available. The average transport distance for incoming materials and components is approximately 1,200 km.
The product consists primarily of brass components, plastic parts and steel springs. According to supplier information the brass used in the product contains approximately 93% recycled/recovered material and 7% virgin raw material. The recycled content originates from brass scrap that is collected, sorted and remelted before being used in the production of new brass billets and extruded brass bars. The recycled brass has undergone the necessary recovery operations and enters the product system as a secondary material.
Brass components are manufactured by hot forging of brass billets. The heated brass is pressed into the required shape, followed by machining operations to achieve the final dimensions and surface finish required for plumbing and heating applications. Production losses associated with brass manufacturing and machining are included in the assessment. Brass scrap and machining residues generated during production are collected and returned to foundries for recycling and reprocessing into new brass material. These flows are modelled according to the cut-off approach in EN 15804+A2.
Plastic components are produced by injection moulding. Thermoplastic granules are melted and injected into moulds where the final shape is formed. This process is used for components such as knobs, covers and other plastic details.
Steel springs are manufactured from steel wire through forming and coiling processes. The wire is shaped into springs, heat treated where required and supplied as finished components for assembly.
The final assembly and packaging of the product take place at the LK Armatur facility in Helsingborg, Sweden. The product is assembled and packaged at a single site. The electricity used in module A3 is purchased electricity based on a 100% nuclear power mix. A lubricant grease is used as an ancillary material during assembly.
Packaging materials consist primarily of cardboard made from recycled paper fibres and reusable EUR/EPAL pallets. The finished valve is packed in a cardboard box and subsequently stacked on a pallet for transport. The pallets are part of a reuse system and are used multiple times before recycling or end-of-life treatment.
No significant production waste is generated during the assembly and packaging processes in Helsingborg. If any product or packaging waste arises, it is collected and managed by an approved waste contractor in accordance with local waste management procedures. No specific waste transport has been modelled for module A3, as no significant manufacturing waste is generated during the assembly and packaging operations for this product.

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.

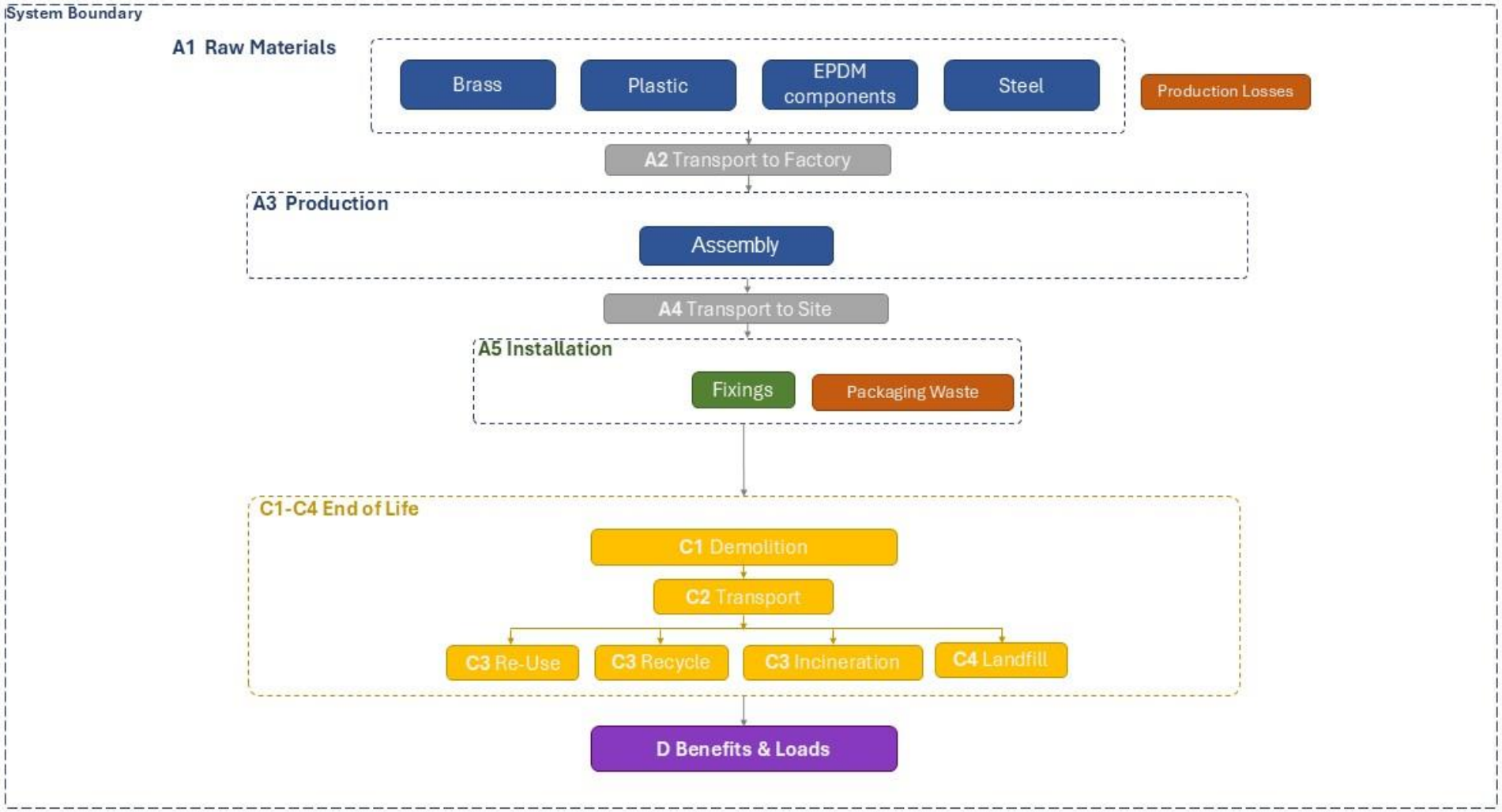
A4 – Transport
The transport stage covers the delivery of the final product from the manufacturing site to the construction site. The average transport distance is 1200 km. Transportation is carried out mainly by truck, complemented by ferry transport where applicable. Environmental impacts from direct fuel emissions, fuel production, and related infrastructure are included.
A5 – Installation
During installation, the product is unpacked at the construction site. Cardboard packaging is collected and sent for recycling, while pallets

circulate through a pallet pooling system for reuse. No additional installation materials, energy use, or processes with significant environmental impacts are considered in this stage.

PRODUCT END OF LIFE (C1-C4, D)

C1 (Deconstruction)
No significant impacts are considered at the deconstruction stage, as the product is dismantled manually when the building is demolished.
C2 (Transport)
The product is assumed to be transported 50 km by lorry to the nearest waste management facility.
C3 (Waste processing)
Brass and steel components are primarily sent for material recycling (60%) due to their high recyclability and market value. A fraction of brass scrap is assumed to end up in landfill (40%). Plastic components are partly sent for material recycling (24%), while the majority is directed to incineration (49%).
C4 (Disposal)
Only small non-recyclable fractions remain, which are treated as landfill or incineration.
D (Recycling)
Recycling of brass provides significant benefits, as secondary metals substitute virgin material production. Plastics contribute partly through recycling, substituting virgin plastic production, while the fraction sent to incineration provides benefits through energy recovery. Cardboard packaging is assumed to be recycled, thereby replacing virgin fibre production. Overall, the recycling of metals represents the largest benefit in module D, complemented by contributions from plastics and packaging.

LIFE CYCLE FLOW 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.

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	Economic Values
Packaging material	Physical Properties
Ancillary materials	No allocation
Manufacturing energy and waste	Physical Properties

Supplier declaration confirms that the brass billets used during the reporting period 2024 contained approximately 93% recycled/recovered material and 7% virgin raw material. The recycled content originates from recovered brass scrap which is remelted and processed into new brass billets and extruded products.

PRODUCT & MANUFACTURING SITES GROUPING

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

Average representativeness: The LK 551 HydroMix product range includes thermostatic mixing valves with female threaded connections in sizes ½"–1",

male threaded connections in sizes ½"–1¼", and compression fitting connections in 15 mm and 22 mm.
All products covered by this EPD perform the same function and have the same intended use as thermostatic mixing valves for domestic hot water and heating systems. The differences between the product variants are limited to connection type and connection size. No differences in functional performance, operating principle, or product classification exist within the product range.

LCA SOFTWARE AND BIBLIOGRAPHY

This EPD has been created using One Click LCA EPD Generator for EPD Hub V3 and EPD Process Certification v3.2.5. 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'.

Copper Alliance (2021). European Copper Data Overview. Available at: https://plasticseurope.org/wp-content/uploads/2021/10/BC_Table.pdf

Zero Waste Europe (2023). Debunking Efficient Recovery: The Performance of EU Incineration Facilities. Available at: https://zerowasteeurope.eu/wp-content/uploads/2023/01/Debunking-Efficient-Recovery-Full-Report-EN.docx.pdf

Ecoinvent Database. Life Cycle Inventory Data for Energy and Materials. Ecoinvent Centre, Switzerland.

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	3,12E+00	2,63E-01	-2,82E-02	3,36E+00	2,89E-01	1,20E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,14E-02	1,64E-01	5,36E-03	-2,82E-01
GWP – fossil	kg CO_2e	2,98E+00	2,63E-01	9,07E-02	3,34E+00	2,89E-01	1,31E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,14E-02	1,64E-01	5,36E-03	-2,81E-01
GWP – biogenic	kg CO_2e	2,41E-02	5,24E-05	-1,19E-01	-9,49E-02	5,81E-05	1,19E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	6,87E-06	-4,64E-05	-2,35E-06	-7,76E-04
GWP – LULUC	kg CO_2e	1,14E-01	9,82E-05	2,03E-04	1,15E-01	1,04E-04	7,18E-07	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,39E-05	1,98E-05	1,47E-06	-5,37E-04
Ozone depletion pot.	kg CFC-$_{11}$e	1,48E-05	5,03E-09	1,11E-08	1,49E-05	5,76E-09	1,32E-11	ND	ND	ND	ND	ND	ND	ND	0,00E+00	4,40E-10	1,88E-10	7,26E-11	-4,36E-09
Acidification potential	mol H^+e	5,82E-02	6,20E-04	6,22E-04	5,95E-02	6,02E-04	5,28E-06	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,05E-04	1,82E-04	1,80E-05	-1,56E-02
EP-freshwater[2)]	kg Pe	4,65E-03	1,81E-05	2,24E-05	4,69E-03	1,95E-05	2,92E-07	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,44E-06	8,52E-06	2,15E-07	-1,24E-03
EP-marine	kg Ne	4,32E-03	1,61E-04	1,15E-04	4,60E-03	1,45E-04	8,60E-06	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,40E-05	4,77E-05	1,30E-05	-8,35E-04
EP-terrestrial	mol Ne	5,31E-02	1,75E-03	1,19E-03	5,60E-02	1,56E-03	1,67E-05	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,70E-04	5,07E-04	7,48E-05	-1,14E-02
POCP ("smog")[3)]	kg NMVOCe	1,62E-02	9,88E-04	3,49E-04	1,75E-02	1,00E-03	6,40E-06	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,46E-04	1,45E-04	2,74E-05	-3,38E-03
ADP-minerals & metals[4)]	kg Sbe	6,87E-04	8,53E-07	4,48E-07	6,89E-04	9,63E-07	8,44E-09	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,02E-07	8,83E-07	4,23E-09	-2,12E-04
ADP-fossil resources	MJ	4,21E+01	3,72E+00	1,39E+00	4,72E+01	4,07E+00	1,19E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	4,41E-01	1,99E-01	6,16E-02	-4,82E+00
Water use[5)]	m^3e depr.	1,18E+00	1,85E-02	4,93E+00	6,13E+00	2,02E-02	3,27E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,05E-03	6,63E-03	1,91E-04	-2,01E-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	2,43E-07	2,04E-08	7,41E-09	2,70E-07	2,13E-08	7,09E-11	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,52E-09	2,37E-09	4,09E-10	-3,47E-08
Ionizing radiation[6)]	kBq U235e	3,29E-01	4,55E-03	2,63E-01	5,96E-01	5,25E-03	7,82E-05	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,58E-04	7,37E-04	4,11E-05	-4,35E-02
Ecotoxicity (freshwater)	CTUe	5,45E+03	5,00E-01	2,45E-01	5,45E+03	5,41E-01	4,30E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	6,94E-02	1,41E-01	1,43E-02	-2,18E+01
Human toxicity, cancer	CTUh	3,62E-05	4,41E-11	7,79E-11	3,62E-05	4,85E-11	9,47E-13	ND	ND	ND	ND	ND	ND	ND	0,00E+00	5,33E-12	1,78E-11	5,66E-13	-1,61E-09
Human tox. non-cancer	CTUh	7,93E-06	2,36E-09	9,69E-10	7,94E-06	2,57E-09	5,06E-11	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,77E-10	9,88E-10	3,95E-11	-1,59E-07
SQP[7)]	-	2,23E+01	2,48E+00	6,80E+00	3,16E+01	2,46E+00	8,82E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,73E-01	3,54E-01	1,24E-01	-5,42E+00

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	4,87E+00	6,28E-02	1,19E+00	6,12E+00	7,12E-02	-5,21E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	6,05E-03	2,88E-02	6,33E-04	-9,23E-01
Renew. PER as material	MJ	0,00E+00	0,00E+00	1,08E+00	1,08E+00	0,00E+00	-1,08E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	7,00E-03
Total use of renew. PER	MJ	4,87E+00	6,28E-02	2,27E+00	7,21E+00	7,12E-02	-1,60E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	6,05E-03	2,88E-02	6,33E-04	-9,16E-01
Non-re. PER as energy	MJ	3,91E+01	3,72E+00	2,96E+00	4,58E+01	4,07E+00	1,19E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	4,41E-01	-2,62E+00	-9,57E-01	-4,83E+00
Non-re. PER as material	MJ	0,00E+00	0,00E+00	3,75E-02	3,75E-02	0,00E+00	-3,75E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	9,90E-01
Total use of non-re. PER	MJ	3,91E+01	3,72E+00	3,00E+00	4,58E+01	4,07E+00	-2,55E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	4,41E-01	-2,62E+00	-9,57E-01	-3,84E+00
Secondary materials	kg	1,03E+00	1,70E-03	1,99E-01	1,23E+00	1,89E-03	1,97E-05	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,98E-04	2,99E-04	1,62E-05	4,60E-02
Renew. secondary fuels	MJ	2,07E-03	2,15E-05	1,92E-02	2,13E-02	2,39E-05	1,11E-07	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,52E-06	9,84E-06	3,31E-07	-5,32E-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	4,59E-02	5,13E-04	1,46E-03	4,79E-02	5,54E-04	-6,88E-06	ND	ND	ND	ND	ND	ND	ND	0,00E+00	5,88E-05	1,10E-04	-3,88E-05	-8,24E-03

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	7,82E-01	5,55E-03	2,08E-03	7,89E-01	5,91E-03	2,02E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	7,68E-04	2,78E-03	7,23E-05	-6,47E-02
Non-hazardous waste	kg	2,00E+01	1,14E-01	4,64E-01	2,06E+01	1,25E-01	2,31E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,44E-02	9,53E-02	1,31E-01	-4,32E+00
Radioactive waste	kg	7,08E-05	1,13E-06	2,84E-05	1,00E-04	1,30E-06	1,99E-08	ND	ND	ND	ND	ND	ND	ND	0,00E+00	8,78E-08	1,82E-07	1,00E-08	-1,13E-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	2,34E-01	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	3,00E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	5,63E-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	1,58E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	7,60E-01	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	6,60E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	3,20E-01	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	9,20E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	4,40E-01	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	3,10E+00	2,63E-01	9,09E-02	3,45E+00	2,89E-01	1,31E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,14E-02	1,64E-01	5,36E-03	-2,81E-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. Electricity, Sweden, residual mix, 2024, Sweden, One Click LCA, 0.11 kgCO2e/kWh

Transport scenario documentation - A4 (Transport resources)

1. Market for transport, freight, lorry 16-32 metric ton, EURO6, 1200 km

Transport to the building site (A4) - Scenario documentation

Scenario parameter	Value
Capacity utilization (including empty return) %	70
Bulk density of transported products	2590
Volume capacity utilization factor	<1

Installation at the building site (A5) - Scenario documentation

Scenario parameter	Value
Energy: type and consumption (MJ or kWh)	
Water use (m^3)	
Ancillary materials: type and mass (kg)	
Waste materials: type and mass (kg)	
Waste materials: output routes	
Direct emissions (kg)	

End of life (C1-C4) - Scenario documentation

Scenario information	Value
Collection process: collected separately (kg)	The end-of-life materials are assumed to be collected and treated according to the most probable scenario for building service components. The metallic fraction, consisting primarily of copper alloys (brass) together with minor steel components such as springs and retaining rings, is assumed to be collected as mixed metal scrap for recycling. Plastic components are collected separately or via mixed waste streams depending on local waste management practices. The majority of the product mass is therefore allocated to metal recovery processes at end of life.
Collection process: Mixed waste (kg)	
Recovery: re-use (kg)	0
Recovery: recycling (kg)	0,56
Recovery: energy recovery (kg)	0
Disposal (kg)	0
Scenario assumptions e.g. transportation (mode, km) & other	Recycling: 250 km Incineration: 150 km Landfill: 50 km

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.

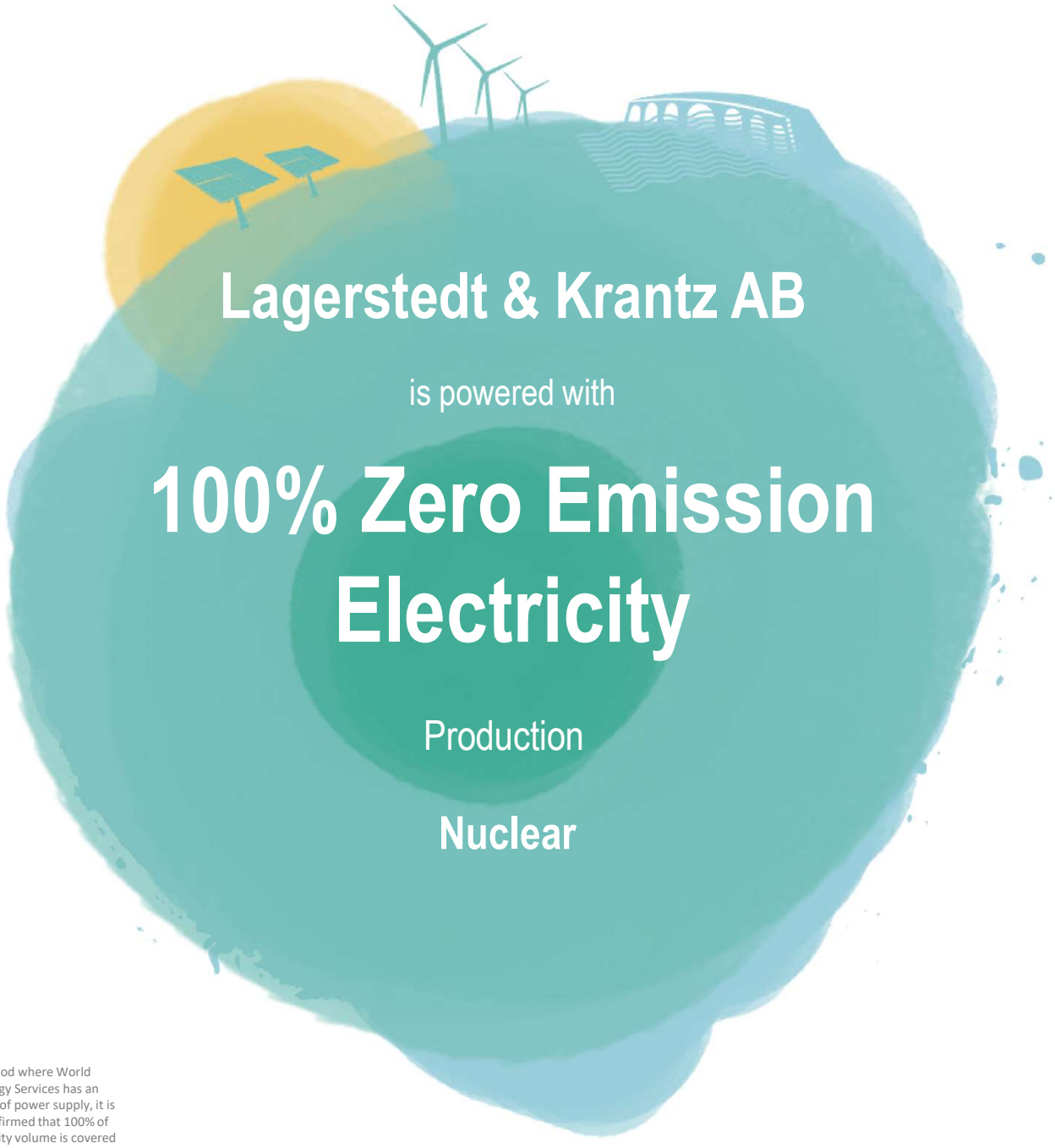
The software used in creation of this LCA and EPD is verified by EPD Hub to conform to the procedural and methodological requirements outlined in ISO 14025:2010, ISO 14040/14044, EN 15804+A2, and EPD Hub Core Product Category Rules and General Program Instructions.

Verified tools

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

Elena Antuña-Bernardo as an authorized verifier for EPD Hub Limited
15.07.2026

2025
CONFIRMATION



Lagerstedt & Krantz AB

is powered with

100% Zero Emission Electricity

Production

Nuclear

For the period where World Kinect Energy Services has an agreement of power supply, it is hereby confirmed that 100% of the electricity volume is covered by Guarantees of Origin for renewable energy according to the EU Renewables Directive. The electricity production is certified according to the international EECS (European Energy Certificate System) standard and documented by the issue of Guarantees of Origin (GoO).

GREENHOUSE GAS PROTOCOL

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