ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

Plafond Nord

Rexel Sverige AB

EPD HUB, EPD number HUB-5917

Published on 03.04.2026, last updated on 03.04.2026, valid until 02.04.2031

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	Rexel Sverige AB
Address	Box 103, 125 23 Älvsjö, Sweden
Contact details	info@rexel.se
Website	www.rexel.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, B6 and modules C1-C4, D
EPD author	David Molander, West Coast Lighting WCL AB
EPD verification	Independent verification of this EPD and data, according to ISO 14025: o Internal verification þ External verification
EPD verifier	Sarah Curpen 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	Plafond Nord
Additional labels	Plafond Nord Switch, Plafond Nord Switch Sensor, Plafond Nord Switch 8W/12W, Plafond Nord Switch 13W/18W, Plafond Nord Switch 8W/12W Sensor, Plafond Nord Switch 13W/18W Sensor
Product reference	7027960, 7027961, 7027962, 7027963, ZPL812, ZPL812S, ZPL1318, ZPL1318S
Place(s) of raw material origin	China
Place of production	China
Place(s) of installation and use	Sweden
Period for data	9/2024 - 9/2025
Averaging in EPD	Multiple products
Variation in GWP-fossil for A1-A3 (%)	-20%
GTIN (Global Trade Item Number)	-
NOBB (Norwegian Building Product Database)	-
A1-A3 Specific data (%)	33,1

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 unit of Plafond Nord Switch 13W/18W Sensor
Declared unit mass	1,1924 kg
Mass of packaging	0 kg
GWP-fossil, A1-A3 ($kgCO_2e$)	14,2
GWP-total, A1-A3 ($kgCO_2e$)	13,3
Secondary material, inputs (%)	60,8
Secondary material, outputs (%)	68,8
Total energy use, A1-A3 (kWh)	47
Net freshwater use, A1-A3 (m^3)	0,05

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

Zebra specializes in lighting solutions, drawing inspiration from the unique qualities from our Scandinavian light to create products that are both innovative and sustainable. With a vision rooted in energy efficiency and modern Scandinavian design, Zebra offers outdoor and indoor lighting that enhances living and working environments. The brand is distributed and sold by Rexel, a global distributor of products and services for the electrical industry. Being part of Rexel enables Zebra to provide tailored solutions that meet diverse customer needs while maintaining a strong commitment to environmental responsibility.

PRODUCT DESCRIPTION

Plafond Nord is a low-profile ceiling luminaire with tool-free replacement of LED module and driver. The luminaire has two selectable power settings (13W/18W) and a DIP switch for adjustable color temperature (3000K/3500K/4000K). Easy to install with quick-connect terminal block, screw holes for junction box and cable entries from three sides.

Further information can be found at www.rexel.se.

TECHNICAL SPECIFICATION

Declared operating voltage, Volt	220
Light source color temperature, Kelvin	4000
Protection index for water and dust (IP)	54
Luminous flux, Lumen	2100
Electrical power, Watt	18
Luminous efficiency, Lumen/Watt	117

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	71	Asia
Minerals	-	
Fossil materials	29	Asia
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	0,27

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 unit of Plafond Nord Switch 13W/18W Sensor
Mass per declared unit	1,1924 kg
Mass of packaging	0,475 kg
Functional unit	1 unit of Plafond Nord Switch 13W/18W Sensor supplying 2100 lumens during a lifetime of 50,000 hours
Reference service life	25

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	x	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 location-based approach is used in modelling the electricity mix utilized in the factory.

The product is made of metals, plastics and electronic components. Materials for the driver are included, as a part of the luminaire. The materials are transported to the factory where Rexel Sverige AB's product is manufactured and assembled. Ancillary materials needed within the manufacturing and assembly process are considered neglected. The finished product is packaged in cardboard before being sent to the distribution center in Sweden. There the packages are sorted on wooden pallets and wrapped in polyethylene before being sent to the installation site.

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.

Transportation distance is defined according to the PCR. The average transportation distance from production facility to installation site is 422 km by lorry and 25 262 km by container ship. Vehicle capacity utilization volume factor is assumed to be 100% which means full load. In reality, it may vary but as role of transportation emissions in total results is small, the variety in load is assumed to be negligible. Empty returns are not taken into account as it is assumed that return trip is used by the transportation company to serve the needs of other clients. Transportation does not cause losses as products are packaged properly. Also, volume capacity utilization factor is assumed to be 100 % for the nested packaged products. Transportation impacts that occur from delivery of the product cover direct exhaust emissions of fuel, environmental impacts of fuel production, as well as related infrastructure emissions. Environmental impacts from installation into the building include waste packaging materials (A5) and release of biogenic carbon dioxide from wood pallets and cardboard. The impacts of energy consumption and the used ancillary materials during installation are considered negligible.

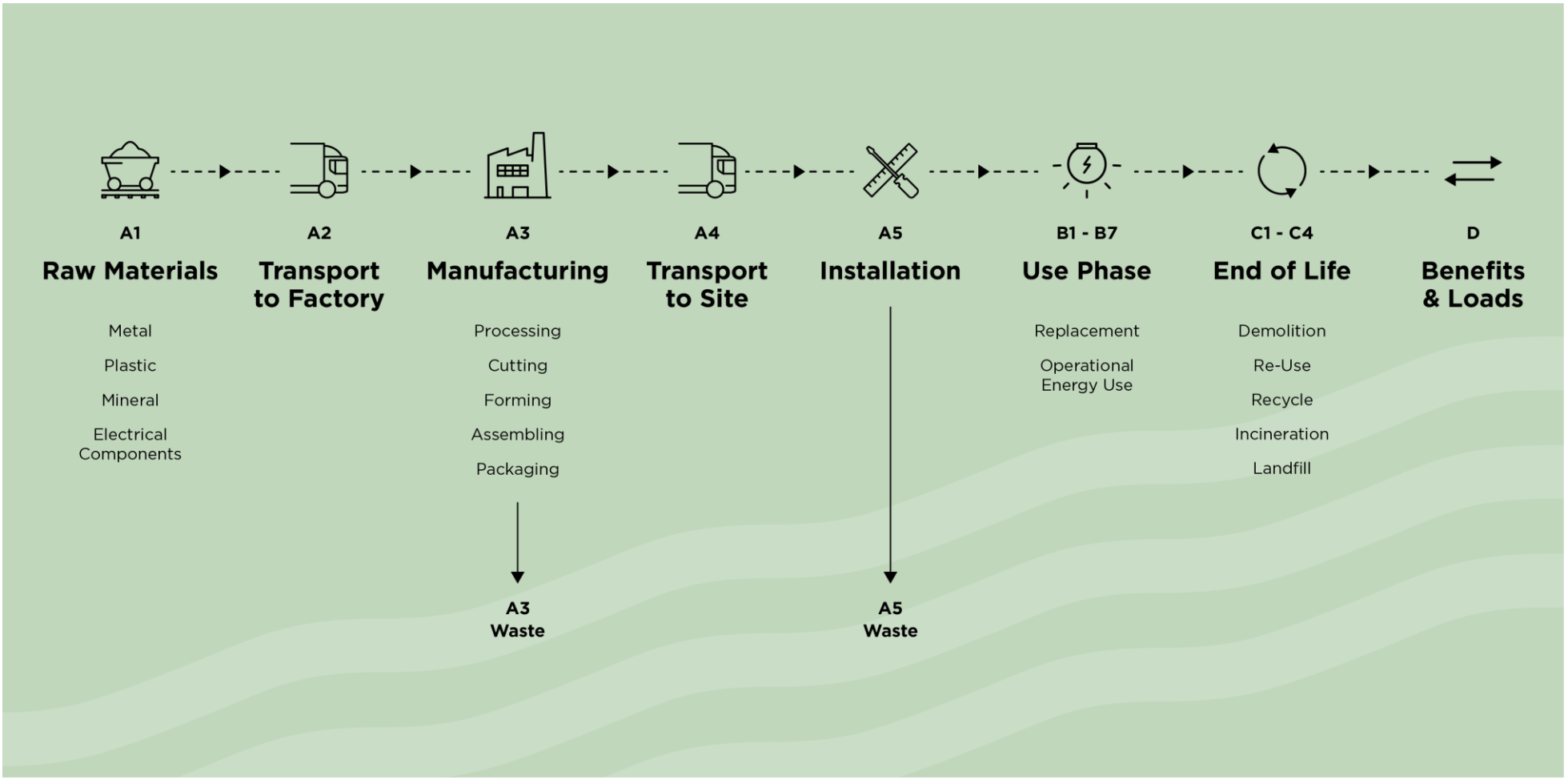
PRODUCT USE AND MAINTENANCE (B1-B7)

During the use phase, the product consumes electricity from Sweden's electricity grid mix (B6). Impacts due to electricity production include direct emissions to air, transformation and transmission losses. The lifetime of the product is assumed to be 50,000 hours, which corresponds to 2,000 hours per year for 25 years. The projected decrease in efficiency is 10% after 50,000 hours. The decrease is assumed to be linear, from 2100 lumens to 1890 lumens during its lifetime.
Air, soil, and water impacts during the use phase have not been studied.

PRODUCT END OF LIFE (C1-C4, D)

Consumption of energy and natural resources in demolition process is assumed to be negligible. It is assumed that the waste is collected separately and transported to the waste treatment center. Transportation distance to treatment is assumed as 50 km and the transportation method is assumed to be lorry (C2). According to EN 50693:2019, the sequence of treatment operations occurring to the product shall include de-pollution, fractions separation and preparation (dismantling, crushing, shredding, sorting), recycling, other material recovery, energy recovery and disposal. In this study, the default values from table G.4 of EN 50693 is used for treating materials in different waste treatment methods. Due to the material and energy recovery potential of parts in the lighting system, the end-of-life product is converted into recycled raw materials, while the energy recovered from incineration displaces electricity and heat production (D). The wooden pallet and other plastic packaging used during transportation is also incinerated for energy recovery and/or recycled. The benefits and loads of incineration and recycling are included in 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.

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

PRODUCT & MANUFACTURING SITES GROUPING

Type of grouping	Multiple products
Grouping method	Based on worst-case results
Variation in GWP-fossil for A1-A3	-20%

This EPD covers a group of multiple products manufactured at a single factory. The group of multiple products includes a total of four products; Plafond Nord Switch 8W/12W, Plafond Nord Switch 8W/12W Sensor, Plafond Nord Switch 13W/18W and Plafond Nord Switch 13W/18W Sensor. The results presented in this EPD are from Plafond Nord Switch 13W/18W Sensor set to 18W and based on worst-case. Best-case results are from Plafond Nord Switch 8W/12W, set to 8W. The difference in GWP fossil for best-case and worst-case scenario for modules A1-A3 is -20%.

LCA SOFTWARE AND BIBLIOGRAPHY

This EPD has been created using One Click LCA EPD Generator for EPD Hub V3 v3.2.3. The LCA and EPD have been prepared according to the reference standards (EN 15804:2012+A2:2019/AC:2021 and ISO 14025), EN 50693:2019 and ISO 14040/14044. The EPD Generator uses Ecoinvent v3.10.1/3.11 and One Click LCA databases as sources of environmental data. Allocation used in Ecoinvent 3.10.1/3.11 environmental data sources follow the methodology ‘allocation, Cut-off, EN 15804+A2‘.

ENVIRONMENTAL IMPACT DATA

The estimated impact results are only relative statements which do not indicate the end points of the impact categories, exceeding threshold values, safety margins or risks.

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

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP – total[1)]	kg CO_2e	8,97E+00	5,19E-01	3,79E+00	1,33E+01	8,65E-02	1,01E+00	ND	ND	ND	ND	ND	1,32E+00	ND	0,00E+00	2,82E-02	4,15E-01	2,03E-02	-1,73E+00
GWP – fossil	kg CO_2e	8,97E+00	5,18E-01	4,76E+00	1,42E+01	8,65E-02	2,34E-02	ND	ND	ND	ND	ND	1,19E+00	ND	0,00E+00	2,82E-02	4,15E-01	2,03E-02	-1,05E+00
GWP – biogenic	kg CO_2e	0,00E+00	0,00E+00	-9,85E-01	-9,85E-01	0,00E+00	9,85E-01	ND	ND	ND	ND	ND	0,00E+00	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-6,64E-01
GWP – LULUC	kg CO_2e	8,48E-03	2,69E-04	1,66E-02	2,54E-02	3,10E-05	1,99E-05	ND	ND	ND	ND	ND	1,34E-01	ND	0,00E+00	1,09E-05	2,85E-05	1,34E-06	-1,26E-02
Ozone depletion pot.	kg CFC_{-11}e	1,12E-07	7,64E-09	1,91E-08	1,39E-07	1,72E-09	2,65E-10	ND	ND	ND	ND	ND	3,56E-08	ND	0,00E+00	5,13E-10	3,13E-10	5,32E-11	-1,06E-08
Acidification potential	mol H^+e	5,11E-02	1,29E-02	2,42E-02	8,82E-02	1,80E-04	1,06E-04	ND	ND	ND	ND	ND	1,46E-02	ND	0,00E+00	7,03E-05	2,72E-04	1,47E-05	-7,83E-03
EP-freshwater[2)]	kg Pe	3,93E-03	1,99E-05	1,08E-03	5,03E-03	5,82E-06	5,63E-06	ND	ND	ND	ND	ND	1,05E-03	ND	0,00E+00	1,99E-06	1,27E-05	2,17E-07	-1,16E-03
EP-marine	kg Ne	9,44E-03	3,22E-03	6,32E-03	1,90E-02	4,32E-05	1,53E-04	ND	ND	ND	ND	ND	2,15E-03	ND	0,00E+00	1,95E-05	8,00E-05	2,96E-05	-1,53E-03
EP-terrestrial	mol Ne	9,72E-02	3,57E-02	6,01E-02	1,93E-01	4,66E-04	3,68E-04	ND	ND	ND	ND	ND	2,19E-02	ND	0,00E+00	2,11E-04	8,19E-04	6,05E-05	-1,66E-02
POCP ("smog")[3)]	kg NMVOCe	3,31E-02	9,83E-03	1,60E-02	5,90E-02	2,99E-04	1,32E-04	ND	ND	ND	ND	ND	5,85E-03	ND	0,00E+00	1,11E-04	2,31E-04	2,28E-05	-5,64E-03
ADP-minerals & metals[4)]	kg Sbe	1,24E-04	7,07E-07	4,36E-06	1,29E-04	2,88E-07	1,25E-07	ND	ND	ND	ND	ND	1,43E-04	ND	0,00E+00	9,01E-08	1,26E-06	4,42E-09	-1,38E-05
ADP-fossil resources	MJ	1,13E+02	6,50E+00	4,59E+01	1,65E+02	1,22E+00	2,44E-01	ND	ND	ND	ND	ND	1,59E+02	ND	0,00E+00	3,99E-01	3,02E-01	4,46E-02	-1,17E+01
Water use[5)]	m^3e depr.	2,44E+00	2,06E-02	6,94E-01	3,15E+00	6,05E-03	6,91E-03	ND	ND	ND	ND	ND	8,79E+00	ND	0,00E+00	1,97E-03	1,60E-02	7,41E-04	-3,33E-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	6,86E-07	1,94E-08	3,79E-07	1,08E-06	6,37E-09	1,57E-09	ND	ND	ND	ND	ND	1,21E-07	ND	0,00E+00	2,26E-09	3,33E-09	3,05E-10	-1,04E-07
Ionizing radiation[6)]	kBq U235e	3,83E-01	3,61E-03	1,34E-01	5,20E-01	1,57E-03	1,26E-03	ND	ND	ND	ND	ND	1,14E+01	ND	0,00E+00	4,59E-04	2,14E-03	4,08E-05	5,84E-03
Ecotoxicity (freshwater)	CTUe	1,29E+02	5,69E-01	1,44E+01	1,44E+02	1,62E-01	5,92E-01	ND	ND	ND	ND	ND	1,99E+01	ND	0,00E+00	5,47E-02	2,73E-01	9,91E-01	-9,02E+00
Human toxicity, cancer	CTUh	8,11E-09	1,06E-10	9,60E-10	9,18E-09	1,45E-11	1,56E-11	ND	ND	ND	ND	ND	2,35E-09	ND	0,00E+00	4,71E-12	3,14E-11	8,53E-13	-9,04E-10
Human tox. non-cancer	CTUh	1,88E-07	2,05E-09	3,14E-08	2,22E-07	7,70E-10	8,41E-10	ND	ND	ND	ND	ND	1,23E-07	ND	0,00E+00	2,54E-10	1,65E-09	1,21E-10	-7,68E-09
SQP[7)]	-	3,09E+01	1,15E+00	6,71E+01	9,91E+01	7,35E-01	2,08E-01	ND	ND	ND	ND	ND	3,75E+01	ND	0,00E+00	2,80E-01	5,20E-01	9,16E-02	-5,07E+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	8,30E+00	5,90E-02	4,56E+00	1,29E+01	2,13E-02	-1,05E+01	ND	ND	ND	ND	ND	1,09E+02	ND	0,00E+00	6,50E-03	4,75E-02	6,54E-04	-1,35E+01
Renew. PER as material	MJ	0,00E+00	0,00E+00	8,67E+00	8,67E+00	0,00E+00	-8,67E+00	ND	ND	ND	ND	ND	0,00E+00	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,35E+00
Total use of renew. PER	MJ	8,30E+00	5,90E-02	1,32E+01	2,16E+01	2,13E-02	-1,92E+01	ND	ND	ND	ND	ND	1,09E+02	ND	0,00E+00	6,50E-03	4,75E-02	6,54E-04	-7,13E+00
Non-re. PER as energy	MJ	1,04E+02	6,50E+00	4,57E+01	1,56E+02	1,22E+00	2,36E-01	ND	ND	ND	ND	ND	1,59E+02	ND	0,00E+00	3,99E-01	-7,98E+00	-3,06E+00	-1,24E+01
Non-re. PER as material	MJ	8,56E+00	0,00E+00	1,45E-01	8,70E+00	0,00E+00	-2,30E-01	ND	ND	ND	ND	ND	0,00E+00	ND	0,00E+00	0,00E+00	-6,19E+00	-2,28E+00	2,95E+00
Total use of non-re. PER	MJ	1,13E+02	6,50E+00	4,58E+01	1,65E+02	1,22E+00	6,14E-03	ND	ND	ND	ND	ND	1,59E+02	ND	0,00E+00	3,99E-01	-1,42E+01	-5,34E+00	-9,43E+00
Secondary materials	kg	7,25E-01	3,08E-03	3,72E-01	1,10E+00	5,65E-04	3,17E-04	ND	ND	ND	ND	ND	3,11E-02	ND	0,00E+00	1,81E-04	5,55E-04	1,48E-05	5,81E-01
Renew. secondary fuels	MJ	5,37E-03	1,25E-05	1,40E-01	1,46E-01	7,14E-06	2,05E-06	ND	ND	ND	ND	ND	1,41E-04	ND	0,00E+00	2,29E-06	1,51E-05	3,05E-07	-6,88E-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	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	2,97E-02	5,23E-04	1,61E-02	4,64E-02	1,66E-04	-3,55E-04	ND	ND	ND	ND	ND	2,09E-01	ND	0,00E+00	5,54E-05	2,29E-04	-2,73E-04	-5,80E-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	1,43E+00	8,97E-03	5,69E-01	2,01E+00	1,77E-03	3,26E-03	ND	ND	ND	ND	ND	1,62E-01	ND	0,00E+00	6,13E-04	5,66E-03	2,92E-04	-3,04E-01
Non-hazardous waste	kg	3,39E+01	1,33E-01	4,71E+00	3,88E+01	3,73E-02	7,62E-01	ND	ND	ND	ND	ND	5,38E+00	ND	0,00E+00	1,24E-02	2,29E-01	4,17E-01	-2,75E+00
Radioactive waste	kg	9,42E-05	8,83E-07	3,16E-05	1,27E-04	3,90E-07	3,19E-07	ND	ND	ND	ND	ND	2,44E-03	ND	0,00E+00	1,14E-07	5,47E-07	1,00E-08	4,01E-06

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Components for re-use	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	0,00E+00	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	1,00E-02	1,00E-02	0,00E+00	4,56E-01	ND	ND	ND	ND	ND	0,00E+00	ND	0,00E+00	0,00E+00	8,21E-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	0,00E+00	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	1,80E-02	1,80E-02	0,00E+00	5,17E-01	ND	ND	ND	ND	ND	0,00E+00	ND	0,00E+00	0,00E+00	1,77E+00	0,00E+00	0,00E+00
Exported energy – Electricity	MJ	0,00E+00	0,00E+00	7,57E-03	7,57E-03	0,00E+00	2,67E-01	ND	ND	ND	ND	ND	0,00E+00	ND	0,00E+00	0,00E+00	7,47E-01	0,00E+00	0,00E+00
Exported energy – Heat	MJ	0,00E+00	0,00E+00	1,04E-02	1,04E-02	0,00E+00	2,51E-01	ND	ND	ND	ND	ND	0,00E+00	ND	0,00E+00	0,00E+00	1,03E+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_2e	9,02E+00	5,16E-01	4,79E+00	1,43E+01	8,59E-02	7,60E-02	ND	ND	ND	ND	ND	1,33E+00	ND	0,00E+00	2,80E-02	4,15E-01	1,99E-02	-1,05E+00
Ozone depletion Pot.	kg CFC_{-11}e	1,01E-07	6,07E-09	2,11E-08	1,28E-07	1,37E-09	2,16E-10	ND	ND	ND	ND	ND	3,09E-08	ND	0,00E+00	4,09E-10	2,60E-10	4,28E-11	-9,03E-09
Acidification	kg SO_2e	4,24E-02	1,03E-02	1,93E-02	7,20E-02	1,45E-04	7,98E-05	ND	ND	ND	ND	ND	1,22E-02	ND	0,00E+00	5,53E-05	2,13E-04	1,09E-05	-6,35E-03
Eutrophication	kg PO_4^3e	1,52E-02	1,16E-03	5,68E-03	2,21E-02	3,65E-05	8,96E-05	ND	ND	ND	ND	ND	1,51E-03	ND	0,00E+00	1,38E-05	3,85E-05	5,35E-06	-7,25E-04
POCP (“smog”)	kg C_2H_4e	3,53E-03	5,19E-04	1,23E-03	5,27E-03	1,53E-05	1,88E-05	ND	ND	ND	ND	ND	6,60E-04	ND	0,00E+00	5,47E-06	1,34E-05	2,25E-06	-6,73E-04
ADP-elements	kg Sbe	1,20E-04	6,96E-07	4,30E-06	1,25E-04	2,81E-07	1,23E-07	ND	ND	ND	ND	ND	1,43E-04	ND	0,00E+00	8,80E-08	1,26E-06	4,08E-09	-1,36E-05
ADP-fossil	MJ	1,06E+02	6,44E+00	4,36E+01	1,56E+02	1,19E+00	2,23E-01	ND	ND	ND	ND	ND	8,40E+00	ND	0,00E+00	3,92E-01	2,65E-01	4,40E-02	-1,20E+01

ADDITIONAL INDICATOR – GWP-GHG

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-GHG[9)]	kg CO_2e	8,97E+00	5,19E-01	4,77E+00	1,43E+01	8,65E-02	2,35E-02	ND	ND	ND	ND	ND	1,32E+00	ND	0,00E+00	2,82E-02	4,15E-01	2,03E-02	-1,06E+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 – A3 (Energy data source)

1. Market for electricity, medium voltage, northEastChinaGrid, Ecoinvent, 1.40 kgCO2e/kWh

Transport scenario documentation - A4 (Transport resources)

1. Market for transport, freight, lorry 16-32 metric ton, EURO6, 266 km

Transport scenario documentation A4

Scenario parameter	Value
Capacity utilization (including empty return) %	50
Bulk density of transported products	0
Volume capacity utilization factor	1

Installation scenario documentation - A5 (Installation waste)

1. Treatment of waste paperboard, unsorted, sorting, Ecoinvent, Materials for recycling, 0.39 kg
2. Treatment of waste packaging paper, municipal incineration, Ecoinvent, 0.038 kg
3. Exported Energy: Thermal, Ecoinvent, 0.11 MJ
4. Exported Energy: Thermal, Ecoinvent, 0.14 MJ
5. Exported Energy: Electricity, Ecoinvent, 0.076 MJ
6. Exported Energy: Electricity, Ecoinvent, 0.19 MJ
7. Treatment of waste packaging paper, sanitary landfill, Ecoinvent, 0.043 kg
8. Treatment of waste wood, post-consumer, sorting and shredding, Ecoinvent, Materials for recycling, 0.066 kg
9. Treatment of waste wood, untreated, municipal incineration, Ecoinvent, 0.062 kg
10. Treatment of waste wood, untreated, sanitary landfill, Ecoinvent, 0.079 kg
11. Treatment of waste polyethylene, for recycling, unsorted, sorting, Ecoinvent, Materials for recycling, 8.0E-5 kg
12. Treatment of waste polyethylene, municipal incineration, Ecoinvent, 7.4E-5 kg
13. Exported Energy: Electricity, Ecoinvent, 5.0E-4 MJ
14. Exported Energy: Thermal, Ecoinvent, 6.9E-4 MJ
15. Treatment of waste polyethylene, sanitary landfill, Ecoinvent, 4.6E-5 kg

Use stages scenario documentation - B6 (Energy data source)

1. Market for electricity, low voltage, Sweden, Ecoinvent, 36.0 kWh

Use stages scenario documentation - B6-B7 Use of energy and use of water

Scenario information	Value
Ancillary materials specified by material / kg or units as appropriate	0
Characteristic performance, e.g., energy efficiency, emissions, variation of performance with capacity utilization, etc.	Swedish market for electricity, low voltage (Reference product: electricity, low voltage), Emissions factor 0.033 CO2e/kWh
Further assumptions for scenario development, e.g., frequency and period of use, number of occupants	2,000 hours per year for 25 years, 18W

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

1. Sorting and pressing of iron scrap, Ecoinvent, Materials for recycling, 0.64 kg
2. Sorting and pressing of iron scrap, Ecoinvent, Materials for recycling, 0.029 kg
3. Treatment of scrap steel, inert material landfill, Ecoinvent, 0.11 kg
4. Treatment of scrap steel, inert material landfill, Ecoinvent, 0.029 kg
5. Treatment of scrap steel, inert material landfill, Ecoinvent, 0.003 kg

6. Treatment of waste polyethylene, for recycling, unsorted, sorting, Ecoinvent, Materials for recycling, 0.063 kg
7. Treatment of waste polypropylene, municipal incineration, Ecoinvent, 0.14 kg
8. Exported Energy: Electricity, Ecoinvent, 0.72 MJ
9. Exported Energy: Electricity, Ecoinvent, 0.027 MJ
10. Exported Energy: Thermal, Ecoinvent, 0.99 MJ
11. Exported Energy: Thermal, Ecoinvent, 0.037 MJ
12. Treatment of waste polyethylene, sanitary landfill, Ecoinvent, 0.074 kg
13. Treatment of waste plastic, mixture, sanitary landfill, Ecoinvent, 0.0032 kg
14. Treatment of waste rubber, unspecified, municipal incineration, Ecoinvent, 0.0065 kg
15. Treatment of waste rubber, unspecified, municipal incineration, Ecoinvent, 0.0032 kg
16. Sorting and pressing of iron scrap, Ecoinvent, Materials for recycling, 0.0045 kg
17. Sorting and pressing of iron scrap, Ecoinvent, Materials for recycling, 0.084 kg
18. Treatment of waste aluminium, sanitary landfill, Ecoinvent, 0.0053 kg

Scenario information	**Value**
Scenario assumptions e.g. transportation	End of life scenarios for Europe, 50km for landfill, 150km for incineration, 250km for recycling

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

Sarah Curpen as an authorized verifier for EPD Hub Limited 03.04.2026