ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

EPD HUB, HUB-3347
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Sky Panel 600x600

Elektro Elco Aktiebolag

MANUFACTURER AND SITE

Manufacturer	Elektro Elco Aktiebolag
Address	TALLVÄGEN 5, , 56435, Bankeryd, , SE
Contact details	info@elco.se
Website	www.hidealite.se
Place of production	Huizhou city, China
Place(s) of raw material origin	China
Place(s) of installation and use	Sweden, Finland, Norway, Denmark
Period for data	2024

EPD STANDARDS, SCOPE AND VERIFICATION

Program operator	EPD Hub, hub@epdhub.com
Reference standard	EN 15804+A2 and ISO 14025
PCR	EPD Hub Core PCR version 1.1, 5 Dec 2023
Sector	Electrical product
Category of EPD	Third party verified EPD
Parent EPD number	
Scope of the EPD	Cradle to gate with options A4-B7 and modules C1-C4, D
EPD author VP-004	Elektro Elco AB
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal verification ☑ External verification
EPD verifier VP-055	Imane Uald Lamkaddam as an authorized verifier for EPD Hub

PRODUCT SPECIFICATION

Product name	Sky Panel 600x600
Product number / reference	
Product description	Effective LED panel available with opal diffuser or microprismatic louvre. Perfectly adapted for installation in ceilings with visible support profile, which makes it ideal for open-plan offices, schools and other areas where glare-free lighting is important. For those who want surface-mounted installation, a spacer frame with pre-perforated holes for surface-mounted cables is available as an accessory. Selectable colour temperature via DIP-Switch ColourTemp. 3000K or 4000K. Sky MP meets screen and UGR requirements (UGR<19) in compliance with EN 12464-1 in standard conditions. Each panel is supplied complete with cords and power plugs and driver; choose between dimmable and DALI-2, with or without through-wiring Q box or Linect. The DIM version 600x600 comes with 2m pre-installed cord set and is available in a 5-pack for quick installation for larger projects.
GTIN (Global Trade Item Number)	-
NOBB (Norwegian Building Product Database)	-

This EPD is intended for business-to-business and/or business-to-consumer communication.
Life Cycle Assessment study has been performed in accordance with the requirements of EN 15804, EPD Hub PCR version 1.1 (5 Dec 2023) and JRC characterization factors EF 3.1.
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 CLASSIFICATION

Declared operating voltage, Volt	230
Light source color temperature, Kelvin	3000;4000
Protection index for water and dust (IP)	40
Impact resistance index (IK)	
Luminous flux, Lumen	3800
Electrical power, Watt	30
Luminous efficiency, Lm/W	127
Additional characteristic	

ABOUT THE MANUFACTURER

With the brand Hide-a-lite, we create efficient lighting solutions for both private and public environments. In our range, you will find high-quality luminaires that are easy to install, perfect for illuminating everything from industries and residences to hotels, restaurants, offices, and shops. Over the years, we have built extensive experience and knowledge in lighting, knowledge that we gladly share with our customers. Our focus lies on technology, design, and functionality, with a commitment to sustainable development and energy efficiency adapted for the Nordic market.

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 unit
Declared unit mass, kg	1,76098
Mass of packaging, kg	0,7165
Functional unit	
Reference service life (years)	40
Assigned lifetime (hours)	100000
GWP-total, A1-A3 (kg CO_2e)	1,04E+01
GWP-fossil, A1-A3 (kg CO_2e)	1,13E+01
Secondary material, inputs (%)	22,7
Secondary material, outputs (%)	44,6
Total energy use, A1-A3 (kWh)	42,7
Net freshwater use, A1-A3 (m^3)	1,22E-01

LIFE CYCLE ASSESSMENT

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	MND	MND	MND	MND	MND	X	MND	X	X	X	X	X
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstr./demo.	Transport	Waste processing	Disposal	Reuse, Recovery, Recycling

Modules not declared = MND.

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. 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.

ALLOCATION, ESTIMATES AND ASSUMPTIONS

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 materials	No allocation
Ancillary materials	Allocated by mass
Manufacturing energy and waste	Allocated by mass

AVERAGES AND VARIABILITY

This EPD is product and factory-specific and does not contain average calculations.

LCA SOFTWARE AND BIBLIOGRAPHY

The LCA and EPD have been prepared according to the reference standards, EN 50693, and ISO 14040/14044. Ecoinvent v3.10.1 and One Click LCA databases were used as sources of environmental data. Allocation used in Ecoinvent 3.10.1 environmental data sources follow the methodology 'allocation, cut-off, EN 15804+A2'.

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass- %	Material origin
Metals	51,05	asia
Minerals	0	
Fossil materials	32,98	asia
Bio-based materials	0	
Electronic parts	15,97	asia

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	0,266

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

MANUFACTURING (A1-A3)

The environmental impacts considered for the product stage cover the manufacturing of raw materials used in the production. The material losses occurring during the manufacturing processes are treated as per the waste handling practices in the factory, while scenario assumptions are made in the absence of exact data. The study also considers the fuels used by machines as well as losses during electricity transmission.

The product is made of metals, plastics, and electronic components. All components are transported to the production facility, where the main manufacturing processes are associated with assembly of different parts and components. The finished product is packaged with polyethylene, cardboard, and/or paper as packaging material before being sent to customers.

TRANSPORT AND INSTALLATION (A4-A5)

Transportation distances from manufacturing sites to customer locations are based on sales volume-based weighted averages. In the absence of exact data, conservative assumptions are made (A4). Environmental impacts from installation include waste packaging materials (A5). The impacts of energy consumption and the used ancillary materials during installation are considered negligible.

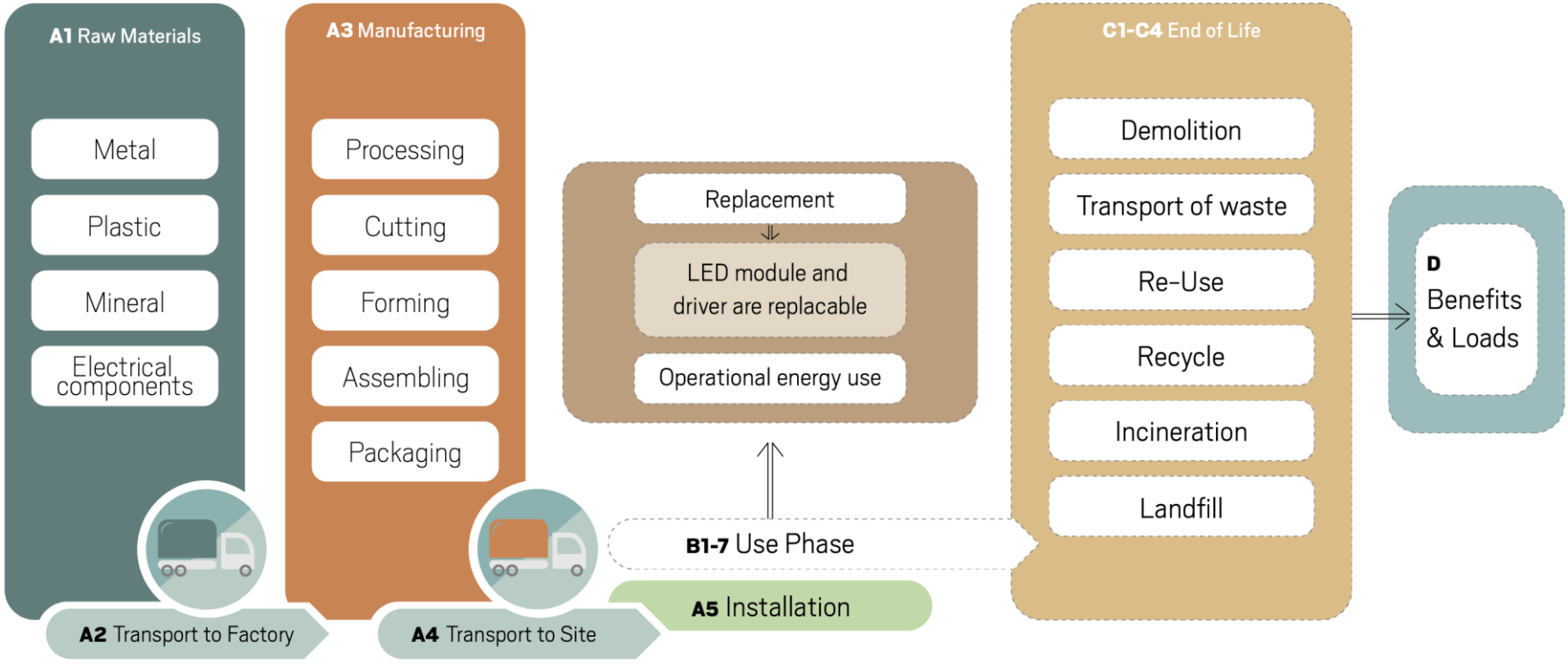
PRODUCT USE AND MAINTENANCE (B1-B7)

During the use phase, the product consumes electricity (B6). Impacts due to electricity production include direct emissions to air, transformation, and transmission losses.

PRODUCT END OF LIFE (C1-C4, D) VP-049-C

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 centre. The transport distance is 150 km while 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 benefits and loads of incineration and recycling are included in Module D.

LIFE CYCLE FLOW DIAGRAM



ENVIRONMENTAL IMPACT DATA, RESULTS PER DECLARED UNIT

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

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	1,04E+01	5,12E-02	1,78E-02	1,04E+01	6,97E-01	1,96E+00	MND	MND	MND	MND	MND	1,12E+02	MND	0,00E+00	5,16E-02	6,38E-01	5,00E-01	-3,96E-01
GWP – fossil	kg CO_2e	1,02E+01	5,12E-02	9,75E-01	1,13E+01	6,96E-01	7,34E-02	MND	MND	MND	MND	MND	9,91E+01	MND	0,00E+00	5,16E-02	6,37E-01	5,00E-01	-5,93E-01
GWP – biogenic	kg CO_2e	1,18E-01	1,14E-05	-9,79E-01	-8,61E-01	1,51E-04	1,88E+00	MND	MND	MND	MND	MND	1,80E+00	MND	0,00E+00	1,13E-05	3,81E-04	-3,25E-05	1,99E-01
GWP – LULUC	kg CO_2e	1,19E-02	2,32E-05	2,20E-02	3,40E-02	3,90E-04	2,19E-05	MND	MND	MND	MND	MND	1,11E+01	MND	0,00E+00	2,28E-05	5,81E-05	1,17E-05	-2,14E-03
Ozone depletion pot.	kg CFC_{-11}e	8,05E-07	7,59E-10	2,17E-08	8,28E-07	1,00E-08	4,35E-10	MND	MND	MND	MND	MND	2,97E-06	MND	0,00E+00	7,21E-10	5,54E-10	2,69E-10	-8,40E-09
Acidification potential	mol H^+e	1,10E-01	1,24E-04	4,97E-03	1,15E-01	1,47E-02	1,60E-04	MND	MND	MND	MND	MND	1,21E+00	MND	0,00E+00	1,72E-04	4,49E-04	1,28E-04	-3,71E-02
EP-freshwater[2)]	kg Pe	9,03E-03	4,01E-06	4,57E-04	9,49E-03	3,68E-05	6,04E-06	MND	MND	MND	MND	MND	8,78E-02	MND	0,00E+00	4,01E-06	2,03E-05	2,94E-06	-2,26E-03
EP-marine	kg Ne	1,20E-02	3,06E-05	2,21E-03	1,43E-02	3,64E-03	1,58E-04	MND	MND	MND	MND	MND	1,79E-01	MND	0,00E+00	5,57E-05	1,44E-04	3,25E-04	-1,36E-03
EP-terrestrial	mol Ne	1,33E-01	3,31E-04	1,33E-02	1,46E-01	4,04E-02	5,23E-04	MND	MND	MND	MND	MND	1,83E+00	MND	0,00E+00	6,06E-04	1,40E-03	5,90E-04	-2,14E-02
POCP ("smog")[3)]	kg NMVOCe	4,49E-02	1,75E-04	4,67E-03	4,97E-02	1,13E-02	2,03E-04	MND	MND	MND	MND	MND	4,87E-01	MND	0,00E+00	2,39E-04	3,83E-04	1,66E-04	-6,52E-03
ADP-minerals & metals[4)]	kg Sbe	1,21E-03	1,68E-07	3,91E-06	1,21E-03	1,19E-06	2,17E-07	MND	MND	MND	MND	MND	1,19E-02	MND	0,00E+00	1,69E-07	1,46E-06	4,39E-08	-6,73E-04
ADP-fossil resources	MJ	1,44E+02	7,22E-01	1,41E+01	1,58E+02	8,90E+00	4,40E-01	MND	MND	MND	MND	MND	1,33E+04	MND	0,00E+00	7,24E-01	5,58E-01	1,99E-01	-1,06E+01
Water use[5)]	m^3e depr.	4,26E+00	3,41E-03	3,63E-01	4,62E+00	3,43E-02	1,15E-02	MND	MND	MND	MND	MND	7,32E+02	MND	0,00E+00	3,36E-03	4,72E-02	2,32E-02	-4,86E-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, PEF

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	7,18E-07	3,97E-09	8,74E-08	8,09E-07	3,01E-08	2,58E-09	MND	MND	MND	MND	MND	1,01E-05	MND	0,00E+00	4,09E-09	4,68E-09	1,54E-09	-9,86E-08
Ionizing radiation[6)]	kBq U235e	6,68E-01	5,95E-04	5,87E-02	7,28E-01	6,68E-03	1,66E-03	MND	MND	MND	MND	MND	9,52E+02	MND	0,00E+00	5,86E-04	3,00E-03	2,56E-04	-1,52E-01
Ecotoxicity (freshwater)	CTUe	1,63E+02	1,13E-01	5,78E+00	1,69E+02	9,26E-01	2,98E+00	MND	MND	MND	MND	MND	1,66E+03	MND	0,00E+00	1,14E-01	1,38E+00	5,58E+00	-3,59E+01
Human toxicity, cancer	CTUh	1,26E-08	8,55E-12	5,45E-10	1,32E-08	1,41E-10	2,31E-11	MND	MND	MND	MND	MND	1,96E-07	MND	0,00E+00	8,77E-12	7,37E-11	2,76E-10	-5,50E-09
Human tox. non-cancer	CTUh	7,58E-07	4,57E-10	1,38E-08	7,72E-07	3,35E-09	1,17E-09	MND	MND	MND	MND	MND	1,02E-05	MND	0,00E+00	4,53E-10	3,35E-09	2,79E-09	-5,80E-07
SQP[7)]	-	5,15E+01	4,72E-01	5,11E+01	1,03E+02	2,32E+00	3,04E-01	MND	MND	MND	MND	MND	3,13E+03	MND	0,00E+00	4,32E-01	5,76E-01	2,52E-01	-2,95E+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 the 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	1,25E+01	1,00E-02	9,37E-01	1,34E+01	1,10E-01	-1,10E+01	MND	MND	MND	MND	MND	9,10E+03	MND	0,00E+00	9,92E-03	7,10E-02	5,06E-03	-3,46E+00
Renew. PER as material	MJ	0,00E+00	0,00E+00	8,68E+00	8,68E+00	0,00E+00	-8,68E+00	MND	MND	MND	MND	MND	0,00E+00	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of renew. PER	MJ	1,25E+01	1,00E-02	9,62E+00	2,21E+01	1,10E-01	-1,97E+01	MND	MND	MND	MND	MND	9,10E+03	MND	0,00E+00	9,92E-03	7,10E-02	5,06E-03	-3,46E+00
Non-re. PER as energy	MJ	1,27E+02	7,22E-01	1,23E+01	1,40E+02	8,90E+00	-9,57E-01	MND	MND	MND	MND	MND	1,33E+04	MND	0,00E+00	7,24E-01	-8,63E+00	-9,76E+00	-1,02E+01
Non-re. PER as material	MJ	1,66E+01	0,00E+00	1,35E+00	1,80E+01	0,00E+00	-1,61E+00	MND	MND	MND	MND	MND	0,00E+00	MND	0,00E+00	0,00E+00	-7,41E+00	-8,94E+00	0,00E+00
Total use of non-re. PER	MJ	1,44E+02	7,22E-01	1,36E+01	1,58E+02	8,90E+00	-2,57E+00	MND	MND	MND	MND	MND	1,33E+04	MND	0,00E+00	7,24E-01	-1,60E+01	-1,87E+01	-1,02E+01
Secondary materials	kg	4,01E-01	0,00E+00	0,00E+00	4,01E-01	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	0,00E+00	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Renew. secondary fuels	MJ	1,07E-02	4,17E-06	7,38E-02	8,45E-02	2,37E-05	4,00E-06	MND	MND	MND	MND	MND	1,18E-02	MND	0,00E+00	4,14E-06	2,52E-05	3,53E-06	-7,76E-04
Non-ren. secondary fuels	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	0,00E+00	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m^3	1,13E-01	9,97E-05	8,12E-03	1,22E-01	9,03E-04	-4,82E-05	MND	MND	MND	MND	MND	1,74E+01	MND	0,00E+00	9,59E-05	8,91E-04	-1,17E-04	-3,05E-02

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	1,20E+00	1,26E-03	6,58E-02	1,26E+00	1,41E-02	3,84E-03	MND	MND	MND	MND	MND	1,35E+01	MND	0,00E+00	1,26E-03	1,37E-02	5,85E-02	-1,96E-01
Non-hazardous waste	kg	4,29E+01	2,36E-02	2,11E+00	4,50E+01	2,30E-01	4,98E-01	MND	MND	MND	MND	MND	4,48E+02	MND	0,00E+00	2,37E-02	3,68E-01	1,25E+00	-1,15E+01
Radioactive waste	kg	1,66E-04	1,46E-07	1,39E-05	1,80E-04	1,63E-06	4,21E-07	MND	MND	MND	MND	MND	2,03E-01	MND	0,00E+00	1,43E-07	7,37E-07	6,39E-08	-3,91E-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 reuse	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	0,00E+00	MND	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	9,47E-03	9,47E-03	0,00E+00	5,73E-01	MND	MND	MND	MND	MND	0,00E+00	MND	0,00E+00	0,00E+00	7,86E-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	MND	MND	MND	MND	MND	0,00E+00	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy	MJ	0,00E+00	0,00E+00	4,38E-02	4,38E-02	0,00E+00	4,66E-01	MND	MND	MND	MND	MND	0,00E+00	MND	0,00E+00	0,00E+00	2,88E+00	0,00E+00	0,00E+00

ENVIRONMENTAL IMPACTS – EN 15804+A1, CML / ISO 21930

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	1,03E+01	5,09E-02	1,07E+00	1,14E+01	6,93E-01	1,60E-01	MND	MND	MND	MND	MND	1,11E+02	MND	0,00E+00	5,13E-02	6,37E-01	5,00E-01	-5,93E-01
Ozone depletion Pot.	kg CFC_{-11}e	6,71E-07	6,06E-10	2,29E-08	6,94E-07	7,97E-09	3,56E-10	MND	MND	MND	MND	MND	2,57E-06	MND	0,00E+00	5,76E-10	4,75E-10	2,26E-10	-6,85E-09
Acidification	kg SO_2e	9,46E-02	9,90E-05	3,46E-03	9,81E-02	1,17E-02	1,23E-04	MND	MND	MND	MND	MND	1,02E+00	MND	0,00E+00	1,32E-04	3,50E-04	9,17E-05	-3,28E-02
Eutrophication	kg PO_4^{3}e	2,71E-02	2,37E-05	3,99E-03	3,11E-02	1,34E-03	1,06E-04	MND	MND	MND	MND	MND	1,26E-01	MND	0,00E+00	3,20E-05	7,03E-05	4,46E-05	-1,85E-03
POCP (“smog”)	kg C_2H_4e	5,55E-03	9,48E-06	6,18E-04	6,18E-03	5,99E-04	3,05E-05	MND	MND	MND	MND	MND	5,50E-02	MND	0,00E+00	1,18E-05	2,11E-05	8,70E-06	-1,40E-03
ADP-elements	kg Sbe	1,20E-03	1,64E-07	3,85E-06	1,20E-03	1,17E-06	2,11E-07	MND	MND	MND	MND	MND	1,19E-02	MND	0,00E+00	1,65E-07	1,44E-06	3,52E-08	-6,72E-04
ADP-fossil	MJ	1,31E+02	7,13E-01	1,31E+01	1,45E+02	8,80E+00	4,11E-01	MND	MND	MND	MND	MND	7,00E+02	MND	0,00E+00	7,15E-01	5,10E-01	1,94E-01	-8,12E+00

SCENARIO DOCUMENTATION

DATA SOURCES

Manufacturing energy scenario documentation – A3 (Energy data source)
1. Energy supply, electricity production, solar photovoltaic, Electricity production, photovoltaic, 3kWp flat-roof installation, single-Si, World, ecoinvent 3.10.1, 0.0876 kgCO2e/kWh
2. Energy supply, electricity transformation and distribution, distribution low voltage, Market group for electricity, low voltage, World, ecoinvent 3.10.1, 0.73 kgCO2e/kWh

Transport scenario documentation - A4
1. Market for transport, freight, sea, container ship, 18932 km
2. Market for transport, freight, lorry 16-32 metric ton, EURO6, 424.4 km
3. Transport, freight train, electricity, 150 km

Installation scenario documentation - A5 (Energy data source)
-
Installation scenario documentation - A5 (Waste materials data source)
1. Polyethylene production, low density, granulate, 0.036, kg
2. Polymer foaming, 0.036, kg
3. Operation, printer, laser, black/white, per kg printed paper, 0.009, kg
4. Corrugated board box production, 0.672, kg

Use stages scenario documentation - B4 (Installation data source)
-
Use stages scenario documentation - B6-B7 (Energy data source)
1. Energy supply, electricity transformation and distribution, distribution low voltage, Market for electricity, low voltage, Sweden, 3000.0, kWh

TRANSPORT SCENARIO DOCUMENTATION - A4

Scenario parameter	Value
Capacity utilization (including empty return) %	50 %
Bulk density of transported products / kg/m³	0,00E+00
Volume capacity utilization factor (factor: =1 or <1 or ≥1 for compressed or nested packaged products)	1

INSTALLATION SCENARIO DOCUMENTATION - A5

Scenario parameter	Value
Ancillary materials for installation (specified by material) / kg or other units as appropriate	0
Water use / m³	0
Other resource use / kg	0
Direct emissions to ambient air, soil and water / kg	0

USE STAGES SCENARIO DOCUMENTATION - B4 REPLACEMENT

Scenario information	Value
Replacement cycle / Number per RSL or year	

USE STAGES SCENARIO DOCUMENTATION - B6-B7 USE OF ENERGY AND WATER

Scenario information	Value
Ancillary materials specified by material / kg or units as appropriate	Not applicable
Net fresh water consumption / m³	0
Power output of equipment / kW	30
Characteristic performance, e.g., energy efficiency, emissions, variation of performance with capacity utilization, etc. / Units as appropriate	
Further assumptions for scenario development, e.g., frequency and period of use, number of occupants / Units as appropriate	

END OF LIFE SCENARIO DOCUMENTATION

Scenario information	Value
Collection process – kg collected separately	1,76098
Collection process – kg collected with mixed waste	0
Recovery process – kg for re-use	0
Recovery process – kg for recycling	7,86E-01
Recovery process – kg for energy recovery	0
Disposal (total) – kg for final deposition	7,11E-01
Scenario assumptions e.g. transportation	Lorry, 16-32 metric ton, EURO5; 150 km

THIRD-PARTY VERIFICATION STATEMENT

EPD Hub declares that this EPD is verified in accordance with ISO 14025 by an independent, third-party verifier and has been generated using an end-to-end verified tool.

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. EPD Hub confirms that it possesses sufficient knowledge and experience in construction products and the relevant standards to carry the verification.

Nemanja Nedic
Program Manager, EPD Hub

EPD Hub has performed a detailed examination of the end-to-end verified tool and underlying data to ensure that there are no deviations in the studied Environmental Product Declaration (EPD), its Life Cycle Assessment (LCA), and project report. The tool is implemented according to the procedural and methodological requirements outlined in ISO 14025:2010, ISO 14040/14044, EN 15804+A2, and EPD Hub Core Product Category Rules version 1.1 and General Program Instructions version 1.2.

Tool verifier: Hai Ha Nguyen & Nemanja Nedic
Tool verification validity: 11 July 2024 - 11 July 2027

EPD Hub has examined the company-specific data for plausibility and consistency. The declaration owner is responsible for ensuring its factual integrity and legal compliance.