KATKO Built for what can't fail.

ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

EPD HUB, HUB-6423
Published on 21.05.2026, last updated on 21.05.2026, valid until 20.05.2031

KU 340N

Katko Oy

MANUFACTURER AND SITE

Manufacturer	Katko Oy
Address	Ruosilantie 2, 00390, Helsinki, Finland
Contact details	customerservice@katko.com
Website	www.katko.com
Place of production	Finland, Poland
Place(s) of raw material origin	EU, Asia
Place(s) of installation and use	Worldwide
Period for data	Calendar year 2024

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	Electrical product
Category of EPD	Third party verified EPD
Scope of the EPD	Cradle to gate with options, A4-A5, B6, and modules C1-C4, D
EPD author	Anssi Lehtimäki, Noel Bothas, Katko Oy
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal verification ☑ External verification
EPD verifier	Vera Durão, as an authorised verifier acting for EPD Hub Limited

PRODUCT SPECIFICATION

Product name	KU 340N
Product number / reference	21450
GTIN (Global Trade Item Number)	6419410214503
NOBB (Norwegian Building Product Database)	-
A1-A3 Specific data (%)	57,9

PRODUCT DESCRIPTION

KATKO LoadSafe 3-pole load break switch with 40 amperes. Mounted into a DIN-rail. Applicable for interior use when not enclosed. Tested according to IEC 60947-3. The results of this EPD are for the declared product KU 340N and it also covers the KU 16-125 A (N) and KUE range in Appendix A.

ABOUT THE MANUFACTURER

KATKO is a Finnish family-owned company in the electrical industry with nearly 80 years of experience in designing, manufacturing, and delivering high-quality switches and installation solutions. The company is a pioneer in high-quality electrical switches and installation products. A strong commitment to sustainability and installer-friendly solutions distinguishes KATKO in the industry. With an extensive network of distribution partners and manufacturing facilities in Finland and Poland, KATKO ensures the availability of its solutions in more than 70 countries worldwide.

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 1.2 (24 Mar 2025) 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.

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 unit
Declared unit mass, kg	0,168
Mass of packaging, kg	0,0249
Functional unit	Turn off all or part of an installation by separating the installation or part of the installation of all electrical energy, for safety reasons with a rated voltage 415-690 V, and rated current 40 A ensuring isolation characterised by a rated voltage 800 V during the reference service life of the product of 20 years
Reference service life (years)	20
Assigned lifetime (hours)	
GWP-total, A1-A3 (kg CO_2e)	**1,21**
GWP-fossil, A1-A3 (kg CO_2e)	**1,25**
Secondary material, inputs (%)	11,7
Secondary material, outputs (%)	29,4
Total energy use, A1-A3 (kWh)	4,82
Net freshwater use, A1-A3 (m^3)	3,11E-02

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	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	Deconstr./demo.	Transport	Waste processing	Disposal	Reuse, Recovery, Recycling

Not declared = ND.

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.

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

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

PRODUCT & MANUFACTURING SITES GROUPING

Type of grouping	No grouping
Grouping method	Not applicable
Variation in GWP-fossil for A1-A3, %	-

The results presented in this EPD are for the declared product and covers also the products of KUE and KU 16-125 (N) range in Appendix A for which A1-A3 GWP results are presented. The variations in environmental impacts come from the number of poles and amperes of the switch, and variations in toggles and shafts.

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass- %	Material origin
Metals	42	EU, Asia
Minerals	0	-
Fossil materials	58	EU
Bio-based materials	0	-
Electronic parts	0	-

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kgC	0
Biogenic carbon content in packaging, kgC	0,006

SUBSTANCES, REACH - VERY HIGH CONCERN

The product does not contain any REACH SVHC substances in amounts greater than 0,1 % (1000 ppm).

LCA SOFTWARE AND BIBLIOGRAPHY

This EPD has been created using One Click LCA Electronics EPD Generator v2.2.9. The LCA and EPD have been prepared according to the reference standards, EN 50693, and ISO 14040/14044. Ecoinvent v3.10.1/3.11/3.12 and One Click LCA databases were used 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'.

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 and plastics. 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 cardboard as packaging material before being sent to customers.

Co-product allocation is neglected as revenue of co-product is very low. Hence, the waste undergoes a conservative waste treatment as per the default end-of-life values of EN 50693.

A1 distances are calculated using a map service. Production losses are calculated based on the difference between the gross and net weight of the material/part. A3 distance is the distance from our factory to the recycling site. Electricity mix is modelled with market-based approach.

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.

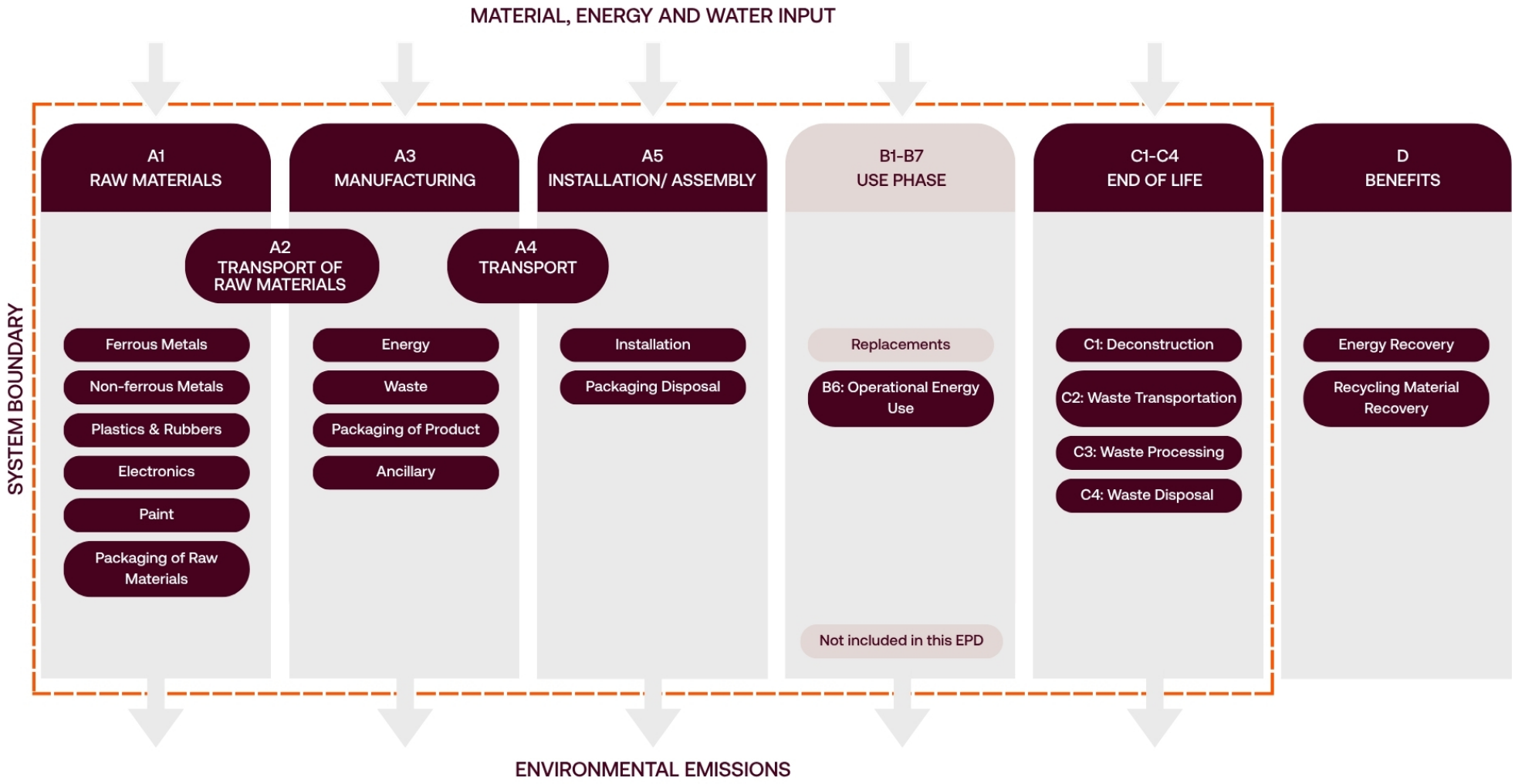
PRODUCT USE AND MAINTENANCE (B1-B7)

During the use phase the switch dissipates some electricity due to power losses. The calculated energy use is calculated based on a load rate of 50%, use rate of 30 %, and a reference service life of 20 years. The reference service life is theoretical and should not be thought as an average or a minimum of the product's life. Electricity mix is location-based European market mix. Scenario based on PEP PSR-0005-ed3.1-EN-2023.

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 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 depollution, 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



Created with One Click LCA

ENVIRONMENTAL IMPACT DATA, RESULTS PER DECLARED UNIT

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	9,39E-01	2,62E-02	2,46E-01	1,21E+00	6,04E-02	3,57E-02	ND	ND	ND	ND	ND	8,98E+00	ND	0,00E+00	4,92E-03	1,18E-01	6,12E-02	-2,63E-01
GWP – fossil	kg CO_2e	9,37E-01	2,62E-02	2,82E-01	1,25E+00	6,04E-02	1,37E-03	ND	ND	ND	ND	ND	8,93E+00	ND	0,00E+00	4,92E-03	1,18E-01	6,12E-02	-2,62E-01
GWP – biogenic	kg CO_2e	1,22E-03	5,19E-06	-3,73E-02	-3,61E-02	1,16E-05	3,43E-02	ND	ND	ND	ND	ND	2,02E-02	ND	0,00E+00	1,07E-06	-1,09E-05	-5,53E-06	-5,76E-04
GWP – LULUC	kg CO_2e	7,53E-04	9,26E-06	1,13E-03	1,89E-03	2,31E-05	7,23E-07	ND	ND	ND	ND	ND	2,77E-02	ND	0,00E+00	2,18E-06	2,48E-06	1,32E-06	-4,82E-04
Ozone depletion pot.	kg CFC_{-11}e	4,18E-09	5,21E-10	3,60E-09	8,30E-09	1,15E-09	1,46E-11	ND	ND	ND	ND	ND	1,55E-07	ND	0,00E+00	6,88E-11	5,74E-11	3,67E-11	-1,77E-09
Acidification potential	mol H^+e	1,78E-02	8,31E-05	7,99E-04	1,87E-02	4,36E-04	5,31E-06	ND	ND	ND	ND	ND	4,55E-02	ND	0,00E+00	1,64E-05	4,09E-05	1,84E-05	-7,06E-03
EP-freshwater[2)]	kg Pe	1,35E-03	1,73E-06	9,53E-05	1,45E-03	3,67E-06	2,05E-07	ND	ND	ND	ND	ND	7,96E-03	ND	0,00E+00	3,82E-07	1,09E-06	4,39E-07	-4,18E-04
EP-marine	kg Ne	1,34E-03	2,79E-05	2,23E-04	1,59E-03	1,23E-04	4,87E-06	ND	ND	ND	ND	ND	7,89E-03	ND	0,00E+00	5,31E-06	1,83E-05	6,01E-05	-4,45E-04
EP-terrestrial	mol Ne	1,66E-02	3,04E-04	1,98E-03	1,89E-02	1,35E-03	1,68E-05	ND	ND	ND	ND	ND	6,86E-02	ND	0,00E+00	5,78E-05	1,65E-04	8,42E-05	-5,57E-03
POCP ("smog")[3)]	kg NMVOCe	5,08E-03	1,29E-04	5,81E-04	5,79E-03	4,57E-04	6,75E-06	ND	ND	ND	ND	ND	2,27E-02	ND	0,00E+00	2,28E-05	4,29E-05	2,32E-05	-1,64E-03
ADP-minerals & metals[4)]	kg Sbe	2,19E-04	8,55E-08	3,37E-07	2,19E-04	1,76E-07	7,39E-09	ND	ND	ND	ND	ND	1,99E-05	ND	0,00E+00	1,61E-08	8,75E-08	7,77E-09	-1,04E-04
ADP-fossil resources	MJ	1,63E+01	3,68E-01	3,84E+00	2,05E+01	8,31E-01	1,50E-02	ND	ND	ND	ND	ND	2,11E+02	ND	0,00E+00	6,90E-02	3,85E-02	2,52E-02	-3,21E+00
Water use[5)]	m^3e depr.	1,07E+00	1,80E-03	4,26E-02	1,11E+00	3,84E-03	3,31E-04	ND	ND	ND	ND	ND	5,47E+00	ND	0,00E+00	3,20E-04	7,92E-03	3,99E-03	-9,47E-02

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	9,16E-08	2,06E-09	3,77E-09	9,75E-08	4,28E-09	8,73E-11	ND	ND	ND	ND	ND	1,59E-07	ND	0,00E+00	3,90E-10	3,37E-10	1,76E-10	-2,32E-08
Ionizing radiation[6)]	kBq U235e	3,60E-02	4,68E-04	6,12E-02	9,76E-02	9,64E-04	5,74E-05	ND	ND	ND	ND	ND	5,90E+00	ND	0,00E+00	5,58E-05	9,78E-05	3,74E-05	-3,09E-02
Ecotoxicity (freshwater)	CTUe	2,63E+01	4,82E-02	6,83E-01	2,70E+01	1,02E-01	1,05E-01	ND	ND	ND	ND	ND	2,23E+01	ND	0,00E+00	1,09E-02	2,38E-01	2,04E-01	-8,23E+00
Human toxicity, cancer	CTUh	1,96E-09	4,47E-12	4,26E-11	2,01E-09	1,07E-11	6,95E-13	ND	ND	ND	ND	ND	1,85E-09	ND	0,00E+00	8,36E-13	1,10E-11	7,84E-12	-8,92E-10
Human tox. non-cancer	CTUh	1,63E-07	2,31E-10	2,12E-09	1,66E-07	4,77E-10	3,76E-11	ND	ND	ND	ND	ND	7,98E-08	ND	0,00E+00	4,32E-11	4,17E-10	3,60E-10	-8,56E-08
SQP[7)]	-	5,54E+00	2,19E-01	1,87E+00	7,63E+00	4,35E-01	1,00E-02	ND	ND	ND	ND	ND	3,59E+01	ND	0,00E+00	4,12E-02	3,64E-02	2,95E-02	-2,79E+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 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	1,06E+00	6,35E-03	1,03E-01	1,17E+00	1,32E-02	-4,04E-01	ND	ND	ND	ND	ND	4,94E+01	ND	0,00E+00	9,46E-04	3,39E-03	7,79E-04	-5,19E-01
Renew. PER as material	MJ	0,00E+00	0,00E+00	3,19E-01	3,19E-01	0,00E+00	-3,19E-01	ND	ND	ND	ND	ND	0,00E+00	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of renew. PER	MJ	1,06E+00	6,35E-03	4,22E-01	1,49E+00	1,32E-02	-7,23E-01	ND	ND	ND	ND	ND	4,94E+01	ND	0,00E+00	9,46E-04	3,39E-03	7,79E-04	-5,19E-01
Non-re. PER as energy	MJ	1,26E+01	3,68E-01	3,20E+00	1,62E+01	8,31E-01	1,50E-02	ND	ND	ND	ND	ND	2,11E+02	ND	0,00E+00	6,90E-02	-1,74E+00	-1,75E+00	-3,21E+00
Non-re. PER as material	MJ	3,56E+00	0,00E+00	-5,40E-01	3,02E+00	0,00E+00	-1,04E-03	ND	ND	ND	ND	ND	0,00E+00	ND	0,00E+00	0,00E+00	-1,51E+00	-1,51E+00	0,00E+00
Total use of non-re. PER	MJ	1,62E+01	3,68E-01	2,66E+00	1,92E+01	8,31E-01	1,39E-02	ND	ND	ND	ND	ND	2,11E+02	ND	0,00E+00	6,90E-02	-3,25E+00	-3,26E+00	-3,21E+00
Secondary materials	kg	1,96E-02	0,00E+00	0,00E+00	1,96E-02	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
Renew. secondary fuels	MJ	7,01E-05	2,12E-06	2,31E-03	2,39E-03	4,26E-06	1,22E-07	ND	ND	ND	ND	ND	9,32E-05	ND	0,00E+00	3,95E-07	1,51E-06	4,90E-07	-4,50E-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	2,65E-02	4,95E-05	4,58E-03	3,11E-02	1,04E-04	-2,21E-06	ND	ND	ND	ND	ND	1,76E-01	ND	0,00E+00	9,14E-06	1,38E-04	-1,75E-05	-4,46E-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	1,36E-01	5,27E-04	2,72E-02	1,63E-01	1,18E-03	1,14E-04	ND	ND	ND	ND	ND	4,81E-01	ND	0,00E+00	1,20E-04	2,13E-03	9,92E-03	-4,97E-02
Non-hazardous waste	kg	5,02E+00	1,11E-02	4,90E-01	5,52E+00	2,37E-02	1,60E-02	ND	ND	ND	ND	ND	3,92E+01	ND	0,00E+00	2,25E-03	5,77E-02	1,69E-01	-2,17E+00
Radioactive waste	kg	9,32E-06	1,16E-07	1,43E-05	2,37E-05	2,39E-07	1,46E-08	ND	ND	ND	ND	ND	1,52E-03	ND	0,00E+00	1,37E-08	2,44E-08	9,38E-09	-7,71E-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 reuse	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	9,24E-03	9,24E-03	0,00E+00	2,04E-02	ND	ND	ND	ND	ND	0,00E+00	ND	0,00E+00	0,00E+00	4,94E-02	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	1,01E-01	1,01E-01	0,00E+00	1,15E-02	ND	ND	ND	ND	ND	0,00E+00	ND	0,00E+00	0,00E+00	5,58E-01	0,00E+00	0,00E+00
Exported energy: Electricity	MJ	0,00E+00	0,00E+00	4,27E-02	4,27E-02	0,00E+00	4,84E-03	ND	ND	ND	ND	ND	0,00E+00	ND	0,00E+00	0,00E+00	2,35E-01	0,00E+00	0,00E+00
Exported energy: Heat	MJ	0,00E+00	0,00E+00	5,87E-02	5,87E-02	0,00E+00	6,05E-03	ND	ND	ND	ND	ND	0,00E+00	ND	0,00E+00	0,00E+00	3,23E-01	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	9,36E-01	2,60E-02	2,82E-01	1,24E+00	6,00E-02	4,55E-03	ND	ND	ND	ND	ND	8,93E+00	ND	0,00E+00	4,89E-03	1,18E-01	6,11E-02	-2,61E-01
Ozone depletion Pot.	kg CFC_{-11}e	9,56E-08	4,14E-10	2,98E-09	9,90E-08	9,14E-10	1,19E-11	ND	ND	ND	ND	ND	1,27E-07	ND	0,00E+00	5,49E-11	5,02E-11	3,13E-11	-1,50E-09
Acidification	kg SO_2e	1,66E-02	6,32E-05	6,36E-04	1,73E-02	3,42E-04	4,09E-06	ND	ND	ND	ND	ND	3,86E-02	ND	0,00E+00	1,26E-05	3,04E-05	1,32E-05	-6,19E-03
Eutrophication	kg PO_4^3e	1,41E-03	1,59E-05	1,38E-04	1,57E-03	5,50E-05	3,72E-06	ND	ND	ND	ND	ND	5,25E-03	ND	0,00E+00	3,05E-06	8,37E-06	6,68E-06	-2,95E-04
POCP (“smog”)	kg C_2H_4e	7,91E-04	5,98E-06	4,23E-05	8,40E-04	2,25E-05	1,08E-06	ND	ND	ND	ND	ND	2,17E-03	ND	0,00E+00	1,12E-06	1,93E-06	1,27E-06	-2,75E-04
ADP-elements	kg Sbe	2,17E-04	8,36E-08	3,35E-07	2,18E-04	1,72E-07	7,22E-09	ND	ND	ND	ND	ND	1,98E-05	ND	0,00E+00	1,58E-08	8,47E-08	5,71E-09	-1,04E-04
ADP-fossil	MJ	4,88E+00	3,60E-01	2,90E+00	8,13E+00	8,15E-01	1,40E-02	ND	ND	ND	ND	ND	1,07E+02	ND	0,00E+00	6,81E-02	3,70E-02	2,46E-02	-2,73E+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	9,38E-01	2,62E-02	2,83E-01	1,25E+00	6,04E-02	1,37E-03	ND	ND	ND	ND	ND	8,96E+00	ND	0,00E+00	4,92E-03	1,18E-01	6,12E-02	-2,62E-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 characterization factor for biogenic CO2 is set to zero.

SCENARIO DOCUMENTATION DATA SOURCES

Manufacturing energy scenario documentation – A3 (Energy data source)

1. Energy supply, electricity transformation and distribution, distribution of medium, Electricity, medium voltage, residual mix, Finland, ecoinvent 3.10.1, 0.66 kgCO2e/kWh

Transport scenario documentation - A4

1. Market for transport, freight, lorry 16-32 metric ton, EURO5, 1366.0 km
2. Market for transport, freight, sea, container ship, 4763.0 km

Installation scenario documentation - A5 (Energy data source)

Installation scenario documentation - A5 (Waste materials data source)

1. Corrugated board box, 0.0249 kg

TRANSPORT SCENARIO DOCUMENTATION - A4

Scenario parameter	Value
Capacity utilization (including empty return) %	50 %
Bulk density of transported products / kg/m³	482
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

END OF LIFE SCENARIO DOCUMENTATION

Scenario information	Value
Collection process – kg collected separately	0,168
Collection process – kg collected with mixed construction waste	0
Recovery process – kg for re-use	0
Recovery process – kg for recycling	4,94E-02
Recovery process – kg for energy recovery	0
Disposal (total) – kg for final deposition	6,95E-02
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. 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.

Program assistant: Xinyuan Zhang

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: Hai Ha Nguyen
Tool verification validity: 28 March 2025 - 27 March 2028

APPENDIX A: REFERENCE TABLE

Product name	Description	GWP total (kg CO2e) Manufacturing A1-A3 Cradle-to-gate
KU N		
KU 316N / KU 325N / KU 340N	3-pole switch with 16 / 25 / 40 A	1,20E+00
KU 363N / KU 380N / KU 3125N	3-pole switch with 63 / 80 / 125 A	1,25E+00
KU 416N / KU 425N / KU 440N	4-pole switch with 16 / 25 / 40 A	1,56E+00
KU 463N / KU 480N / KU 4125N	4-pole switch with 63 / 80 / 125 A	1,50E+00
KUE		
KUE 316 / KUE 325 / KUE 340	3-pole switch with 16 / 25 / 40 A	1,11E+00
KUE 316 KKUE / KUE 325 KKUE / KUE 340 KKUE	3-pole switch with 16 / 25 / 40 A with front plate	1,27E+00
KUE 316 KKUEYR / KUE 325 KKUEYR / KUE 340 KKUEYR	3-pole switch with 16 / 25 / 40 A with front plate, Yellow-Red	1,26E+00
KUE 316 RKUE / KUE 325 RKUE / KUE 340 RKUE	3-pole switch with 16 / 25 / 40 A with front plate and red toggle	1,19E+00
KUE 316 AD1KKUE / KUE 325 AD1KKUE / KUE 340 AD1KKUE	3-pole switch with 16 / 25 / 40 A with front plate and AD1 adapter	1,49E+00
KUE 316 AD1KKUEYR / KUE 325 AD1KKUEYR / KUE 340 AD1KKUEYR	3-pole switch with 16 / 25 / 40 A with front plate and AD1 adapter, Yellow-Red	1,48E+00
KUE 316 AD2KKUE / KUE 325 AD2KKUE / KUE 340 AD2KKUE	3-pole switch with 16 / 25 / 40 A with front plate and AD2 adapter	1,35E+00
KUE 316 AD2KKUEYR / KUE 325 AD2KKUEYR / KUE 340 AD2KKUEYR	3-pole switch with 16 / 25 / 40 A with front plate and AD2 adapter, Yellow-Red	1,34E+00
KUE 316 AD3KKUE / KUE 325 AD3KKUE / KUE 340 AD3KKUE	3-pole switch with 16 / 25 / 40 A with front plate and AD3 adapter	1,35E+00
KUE 316 AD3KKUEYR / KUE 325 AD3KKUEYR / KUE 340 AD3KKUEYR	3-pole switch with 16 / 25 / 40 A with front plate and AD3 adapter, Yellow-Red	1,34E+00
KUE 363 / KUE 380 / KUE 3125	3-pole switch with 63 / 80 / 125 A	1,16E+00
KUE 363 KKUE / KUE 380 KKUE / KUE 3125 KKUE	3-pole switch with 63 / 80 / 125 A with front plate	1,32E+00
KUE 363 KKUEYR / KUE 380 KKUEYR / KUE 3125 KKUEYR	3-pole switch with 63 / 80 / 125 A with front plate, Yellow-Red	1,31E+00
KUE 363 RKUE / KUE 380 RKUE / KUE 3125 RKUE	3-pole switch with 63 / 80 / 125 A with front plate and red toggle	1,24E+00
KUE 363 AD1KKUE / KUE 380 AD1KKUE / KUE 3125 AD1KKUE	3-pole switch with 63 / 80 / 125 A with front plate and AD1 adapter	1,54E+00
KUE 363 AD1KKUEYR / KUE 380 AD1KKUEYR / KUE 3125 AD1KKUEYR	3-pole switch with 63 / 80 / 125 A with front plate and AD1 adapter, Yellow-Red	1,53E+00
KUE 363 AD2KKUE / KUE 380 AD2KKUE / KUE 3125 AD2KKUE	3-pole switch with 63 / 80 / 125 A with front plate and AD2 adapter	1,40E+00
KUE 363 AD2KKUEYR / KUE 380 AD2KKUEYR / KUE 3125 AD2KKUEYR	3-pole switch with 63 / 80 / 125 A with front plate and AD2 adapter, Yellow-Red	1,39E+00
KUE 363 AD3KKUE / KUE 380 AD3KKUE / KUE 3125 AD3KKUE	3-pole switch with 63 / 80 / 125 A with front plate and AD3 adapter	1,40E+00
KUE 363 AD3KKUEYR / KUE 380 AD3KKUEYR / KUE 3125 AD3KKUEYR	3-pole switch with 63 / 80 / 125 A with front plate and AD3 adapter, Yellow-Red	1,39E+00