epd-norge
Global program operatør

Environmental product declaration

in accordance with ISO 14025 and EN 15804+A2

LOOP IN CHARGE

BACH MANN
We power your life.

The Norwegian EPD Foundation

Owner of the declaration:
Bachmann GmbH

Product:
LOOP IN CHARGE

Declared unit:
1 pcs

This declaration is based on Product Category Rules:
CEN Standard EN 15804:2012+A2:2019, EN 50693:2019 and PCR EPD Italy 007 serves as core PCR
PCR EPD Italy 012 - Electronic and electrical products and systems - Switches

Program operator:
The Norwegian EPD Foundation

Declaration number:
NEPD-11854-11795

Registration number:
NEPD-11854-11795

Issue date:
17.07.2025

Valid to:
17.07.2030

EPD software:
LCAno EPD generator ID: 975987

General information

Product

LOOP IN CHARGE

Owner of the declaration:

Bachmann GmbH
Contact person:
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Program operator:

The Norwegian EPD Foundation
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Phone: +47 977 22 020
web: www.epd-norge.no

Manufacturer:

Bachmann GmbH
Ernsthaldenstr. 33
70565 Stuttgart, Germany

Declaration number:

NEPD-11854-11795

Place of production:

Bachmann Romania SRL
Str. Stadionului 88
551105 Medias , Romania

This declaration is based on Product Category Rules:

CEN Standard EN 15804:2012+A2:2019, EN 50693:2019 and PCR EPD Italy 007 serves as core PCR
PCR EPD Italy 012 - Electronic and electrical products and systems - Switches

Management system:

ISO 9001: 2015

Statement of liability:

The owner of the declaration shall be liable for the underlying information and evidence. EPD Norway shall not be liable with respect to manufacturer information, life cycle assessment data and evidences.

Organisation no:

DE815705182

Declared unit:

1 pcs LOOP IN CHARGE

Issue date:

17.07.2025

Declared unit with option:

A1-A3, A4, A5, B6, C1, C2, C3, C4, D

Valid to:

17.07.2030

Year of study:

2024

Functional unit:

1 Pc of LOOP IN CHARGE with following use rate and load rate, manufactured and installed, used over a lifetime of 20 years, including waste treatment at end-of-life.
Socket: Use rate 40% and Load rate 10%.
USB Charger: Use rate 50% and Load rate 80%.

Comparability:

EPD for electronic and electrical products and systems may not be comparable if they do not comply with similar PCR standards.

General information on verification of EPD from EPD tools:

Independent verification of data, other environmental information and the declaration according to ISO 14025:2010, § 8.1.3 and § 8.1.4. Verification of each EPD is made according to EPD-Norway's guidelines for verification and approval requiring that tools are i) integrated into the company's environmental management system, ii) the procedures for use of the EPD tool are approved by EPD-Norway, and iii) the process is reviewed annually by an independent third party verifier. See Appendix G of EPD-Norway's General Programme Instructions for further information on EPD tools

Development and verification of EPD:

The declaration is created using EPD tool lca.tools ver EPD2022.03, developed by LCA.no. The EPD tool is integrated in the company's management system, and has been approved by EPD Norway.

Developer of EPD: Zohaib Ali

Reviewer of company-specific input data and EPD: Børge Heggen Johansen, Energiråd AS

Verification of EPD tool:

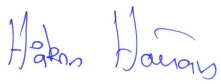
Independent third party verification of the EPD tool, background data and test-EPD in accordance with EPDNorway's procedures and guidelines for verification and approval of EPD tools. Approval number: NEPDT57.

Third party verifier:

Elisabet Amat, GREENIZE projects

(no signature required)

Approved:



Håkon Hauan, CEO EPD-Norge

Product

Product description:

LOOP IN CHARGE combines the high-quality design of a furniture socket outlet with functionality and performance. The integrable solution fits perfectly into the standardized 80 mm hole and combines the classic socket outlet with a powerful USB version. Thanks to the 22W USB charger, fast charging is guaranteed for all end devices. Whether black or white – LOOP IN CHARGE integrates into any environment and is a statement for the modern office world.

Product specification

Universal Charging: Instantly powers laptops, smartphones, and tablets via high-speed USB-A and USB-C ports with Power Delivery.
All-in-One Functionality: Intuitive user interface for effortless operation. Power outlet, dual USB charging, and cable pass-through—everything you need at your fingertips.
Effortless Integration: Seamless integration with modern clutter-free smart home or professional workspace.
Modern Aesthetics: Elegant, minimalist design with premium material selection. Sleek, matte black or white design complements any contemporary office environment.
Certified Safety: Built to meet strict European safety and environmental standards (such as RoHS, REACH).

Materials	kg	%
Adhesive	0,0095	1,84
Electronic - Cable	0,2614	50,76
Electronic - Capacitor	0,00696	1,35
Electronic - Connector	0,00186	0,3612
Electronic - Diode	0,00005	0,00971
Electronic - Inductor	0,00248	0,4816
Electronic - Integrated circuit	0,00044	0,08545
Electronic - Printed wiring board	0,00475	0,9224
Electronic - Resistor	0,00009	0,01748
Electronic - Transistor	0,00011	0,02136
Electronics	0,01165	2,26
Metal - Alloy	0,012	2,33
Metal - Copper	0,00561	1,09
Metal - Galvanized Steel	0,00215	0,4175
Metal - Steel	0,0026	0,5049
Metal - Steel low alloy	0,0058	1,13
Plastic - Nylon (PA)	0,1205	23,40
Plastic - Polyamide	0,0045	0,8739
Plastic - Polyethylene (HDPE)	0,0028	0,5438
Product label - supercalendered	0,001	0,1942
Silicon products	0,00371	0,7205
Tape	0,05	9,71
Thermoplastic elastomers (TPE)	0,005	0,971
Total	0,5149	100,00

Packaging	kg	%
Packaging - Cardboard	0,06	77,94
Packaging - Paper	0,02	22,06
Total incl. packaging	0,59	100,00

Technical data:

Power Output: 1 x socket outlet with A/C charger 22W
Electrical parameters
Rated current / rated voltage 16A / 250V~
Frequency 50 Hz.
Size
Height 73 mm
Built-in depth 73 mm
Diameter 79 mm

Market:

Europe.

Reference service life, product

20 Years.

Reference service life, building or construction works

Not applicable.

LCA: Calculation rules

Declared unit:

1 pcs LOOP IN CHARGE

Cut-off criteria:

All major raw materials and all the essential energy is included. The production processes for raw materials and energy flows with very small amounts (less than 1%) are not included. These cut-off criteria do not apply for hazardous materials and substances.

Allocation:

The allocation is made in accordance with the provisions of EN 15804. Incoming energy and water and waste production in-house is allocated equally among all products through mass allocation. Effects of primary production of recycled materials is allocated to the main product in which the material was used. The recycling process and transportation of the material is allocated to this analysis.

Data quality:

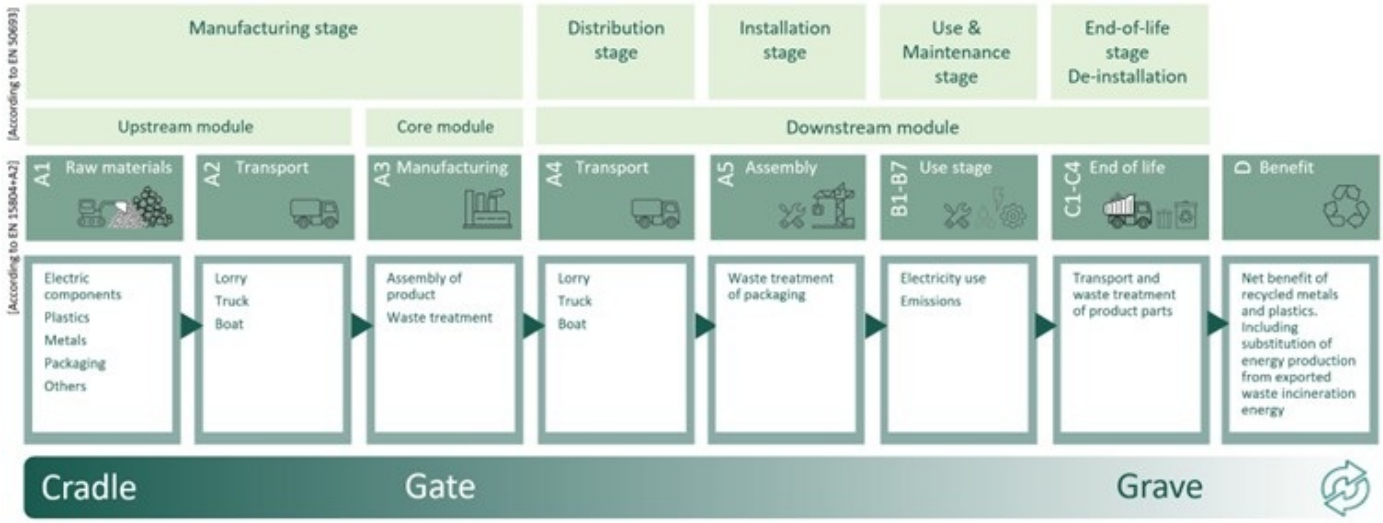
Specific data for the product composition are provided by the manufacturer. The data represent the production of the declared product and were collected for EPD development in the year of study. Background data is based on EPDs according to EN 15804 and different LCA databases. The data quality of the raw materials in A1 is presented in the table below.

Materials	Source	Data quality	Year
Adhesive	ecoinvent 3.6	Database	2019
Electronic - Cable	ecoinvent 3.6	Database	2019
Electronic - Capacitor	ecoinvent 3.6	Database	2019
Electronic - Connector	ecoinvent 3.6	Database	2019
Electronic - Diode	ecoinvent 3.6	Database	2019
Electronic - Inductor	ecoinvent 3.6	Database	2019
Electronic - Integrated circuit	ecoinvent 3.6	Database	2019
Electronic - Printed wiring board	ecoinvent 3.6	Database	2019
Electronic - Resistor	ecoinvent 3.6	Database	2019
Electronic - Transistor	ecoinvent 3.6	Database	2019
Electronics	ecoinvent 3.6	Database	2019
Metal - Alloy	ecoinvent 3.6	Database	2019
Metal - Copper	ecoinvent 3.6	Database	2019
Metal - Galvanized Steel	Ecoinvent 3.6	Database	2019
Metal - Steel	ecoinvent 3.6	Database	2019
Metal - Steel low alloy	ecoinvent 3.6	Database	2019
Packaging - Cardboard	Modified ecoinvent 3.6	Database	2019
Packaging - Paper	ecoinvent 3.6	Database	2019
Plastic - Nylon (PA)	ecoinvent 3.6	Database	2019
Plastic - Polyamide	ecoinvent 3.6	Database	2019
Plastic - Polyethylene (HDPE)	ecoinvent 3.6	Database	2019
Product label - supercalendered	Ecoinvent 3.6	Database	2019
Silicon products	ecoinvent 3.6	Database	2019
Tape	ecoinvent 3.6	Database	2019
Thermoplastic elastomers (TPE)	Ecoinvent 3.6	Database	2019

System boundaries (X=included, MND=module not declared, MNR=module not relevant)

Product stage			Construction installation stage		Use stage							End of life stage				Beyond the system boundaries
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential
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

System boundary:



Additional technical information:

All variants listed below belong to same homogeneous family as they have same function, follow same standard and are manufactured using similar technology.
The composition of materials is the same for all sizes, and the ratio of materials is almost equal among the sizes. Key EPD data for the full range is provided in the following table, including suggested conversion factors.

Item number	Product variant description	Product weight, without packaging (kg)	Extrapolation factor "All other " phases	Extrapolation factor "Use" phase	GWP-total (kg CO2-eq) -A1-A3 - Extrapolated
938.201	LOOP IN CHARGE 1xCEE7/3 1xUSB A/C 22W, cable 2,0m CEE7/7	0.441	0.865	1	5.328
938.202	LOOP IN CHARGE 1xUTE 1xUSB A/C 22W, cable 2,0m CEE7/7	0.44	0.863	1	5.316
938.203	LOOP IN CHARGE 1xCEE7/3 1xUSB A/C 22W, cable 0,2m	0.215	0.422	1	2.598
938.204	LOOP IN CHARGE 1xUTE 1xUSB A/C 22W, cable 0,2m	0.224	0.44	1	2.707
938.205	LOOP IN CHARGE 1xUK 1xUSB A/C 22W, cable 0,2m bk	0.221	0.434	1	2.67
938.206	LOOP IN CHARGE 1xCH T13 1xUSB A/C 22W, cable 0,2m bk	0.215	0.422	1	2.598
938.207	LOOP IN CHARGE 1xCH T13 1xUSB A/C 22W, cable 2,0m T12 bk	0.395	0.775	1	4.772
938.301	LOOP IN CHARGE 1xCEE7/3 1xUSB A/C 22W, cable 2,0m CEE7/7 wt	0.45	0.883	1	5.437
938.302	LOOP IN CHARGE 1xUTE 1xUSB A/C 22W, cable 2,0m CEE7/7 wt	0.449	0.881	1	5.425
938.303	LOOP IN CHARGE 1xCEE7/3 1xUSB A/C 22W, cable 0,2m wt	0.234	0.459	1	2.827
938.304	LOOP IN CHARGE 1xUTE 1xUSB A/C 22W, cable 0,2m wt	0.234	0.459	1	2.827
938.305	LOOP IN CHARGE 1xUK 1xUSB A/C 22W, cable 0,2m wh	0.228	0.448	1	2.755
938.306	LOOP IN CHARGE 1xCH T13 1xUSB A/C 22W, cable 0,2m wh	0.225	0.442	1	2.719
938.307	LOOP IN CHARGE 1xCH T13 1xUSB A/C 22W, cable 2,0m T12 wh	0.403	0.791	1	4.869
BM0016502	LOOP IN CHARGE 1xCEE7/3 1xUSB A/C 22W, cable 0,5m	0.195	0.383	1	2.356
BM0016674	LOOP IN CHARGE 1xUK 1xUSB A/C 22W, cable 2,0m UK RAL9005	0.375	0.736	1	4.531
BM0016676	LOOP IN CHARGE 1xUK 1xUSB A/C 22W, cable 2,0m UK RAL9010	0.39	0.765	1	4.712

LCA: Scenarios and additional technical information

The following information describe the scenarios in the different modules of the EPD.

Module A4 = Average market distance of 500 km to customers in Europe is considered.

Modules A5 = Installation is done by manual labor. The use of portable electrical devices such as drills usually have low energy requirements falling under the cut-off criterion of 1% and are therefore neglected (especially for small retail switches). No product scraps are generated during installation, but the end-of-life treatment of packaging is systematically accounted for in this module.

Module B6 = The operational energy use of the switch is calculated based on the methodology provided in the PCR EPD Italy 012 Part B for switches. To calculate the electricity use, the following scenario parameters have been applied:

Euse [kWh]=(Puse*8760*RSL*Operating time coefficient)/1000

Euse (kWh) = 6570

- Power consumed (Puse) = 75 watt

- Reference service life (RSL) = 20 years

- Number of hours in a year = 8760 hours (according to section 4.2.3.5 of the PCR)

- Operating time coefficient (a) = 50 percent (according to section 4.2.3.5 of the PCR)

Module C1 = De-installation is done by manual labor. The use of portable electrical devices such as drills usually have low energy requirements falling under the cut-off criterion of 1% and are therefore neglected (especially for small retail switches).

Module C2 = Average distance of 300 km has been considered to waste treatment facility.

Modules C3 and C4 = Waste treatment of the product follows the default values provided in EN 50693, Product Category Rules for life cycle assessments of electronic and electrical products and systems, table G.4. This table specified how different types of raw materials used in A1 will likely be treated during the end-of-life of the product. Waste treatments in C3 include material recycling and incineration with energy recovery and fly ash extraction. Disposal in C4 consist of landfilling of different waste fractions and of ashes.

Module D = The recyclability of metals, plastics, and electronic components allows the producers a credit for the net scrap that is produced at the end of a product's life. The benefits from recycling of net scrap are described in formula from EN 15804:2012+A2:2019. Substitution of heat and electricity generated by the incineration with energy recovery of plastic insulation and other parts is also calculated in module D.

Transport from production place to user (A4)	Capacity utilisation (incl. return) %	Distance (km)	Fuel/Energy Consumption	Unit	Value (Liter/tonne)
Truck, 16-32 tonnes, EURO 6 (km) - Europe	36,7 %	500	0,043	l/tkm	21,50

Assembly (A5)	Unit	Value			
Waste, cardboard and paper, to average treatment - A5 including transport (kg)	kg	0,0167			
Waste, packaging, corrugated board box, with recycled content, to average treatment (kg) - A5 including transport	kg	0,059			
Landfilling of plastic mixture (kg)	kg	0,1002			

Operational energy (B6)	Unit	Value			
Electricity, European average (kWh)	kWh	6 570,00			

Transport to waste processing (C2)	Capacity utilisation (incl. return) %	Distance (km)	Fuel/Energy Consumption	Unit	Value (Liter/tonne)
Truck, 16-32 tonnes, EURO 6 (km) - Europe	36,7 %	300	0,043	l/tkm	12,90

Waste processing (C3)	Unit	Value			
Waste treatment per kg Plastic, Mixture, incineration with fly ash extraction (kg)	kg	0,1881			
Waste treatment per kg Plastic, Mixture, incineration with fly ash extraction (kg)	kg	0,00225			
Materials to recycling (kg)	kg	0,06675			
Waste treatment per kg used electronic components, manual separation (kg)	kg	0,2634			
Waste treatment per kg used PWB, shredding and separation - C3 (kg)	kg	0,02642			
Waste treatment per kg electronics scrap from PWB, without components, recycling of copper - C3 (kg)	kg	0,01321			

Disposal (C4)	Unit	Value			
Landfilling of ashes from incineration of Plastics, Mixture, process per kg ashes and residues (kg)	kg	0,006577			
Landfilling of plastic mixture (kg)	kg	0,1903			
Landfilling of ashes from incineration of Plastics, Mixture, process per kg ashes and residues (kg)	kg	0,00007868			
Landfilling of Metal (kg)	kg	0,04098			
Landfilling of hazardous waste (kg)	kg	0,01321			

Benefits and loads beyond the system boundaries (D)	Unit	Value			
Substitution of electricity (MJ)	MJ	0,289			
Substitution of thermal energy, district heating (MJ)	MJ	4,37			
Substitution of electricity (MJ)	MJ	0,003457			
Substitution of thermal energy, district heating (MJ)	MJ	0,0523			
Substitution of primary copper with net scrap (kg)	kg	0,06675			
Substitution of copper with net scrap from PWB, without components (kg)	kg	0,003752			

LCA: Results

The LCA results are presented below for the declared unit defined on page 2 of the EPD document.

Environmental impact											
	Indicator	**Unit**	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
	GWP-total	kg CO_2 -eq	6,16E+00	4,82E-02	8,39E-02	2,81E+03	0,00E+00	2,89E-02	4,87E-01	2,52E-02	-2,05E-01
	GWP-fossil	kg CO_2 -eq	6,25E+00	4,82E-02	1,27E-02	2,79E+03	0,00E+00	2,89E-02	4,86E-01	2,52E-02	-2,03E-01
	GWP-biogenic	kg CO_2 -eq	-1,01E-01	1,99E-05	7,13E-02	1,96E+01	0,00E+00	1,20E-05	1,11E-04	4,42E-06	-8,75E-04
	GWP-luluc	kg CO_2 -eq	8,49E-03	1,72E-05	6,28E-07	6,48E+00	0,00E+00	1,03E-05	7,79E-05	2,55E-05	-1,07E-03
	ODP	kg CFC11 -eq	5,84E-07	1,09E-08	5,71E-10	2,36E-04	0,00E+00	6,55E-09	2,52E-09	9,03E-10	-1,87E-03
	AP	mol H+ -eq	1,24E-01	1,38E-04	1,36E-05	1,63E+01	0,00E+00	8,31E-05	2,75E-04	3,25E-05	-2,91E-02
	EP-FreshWater	kg P -eq	1,17E-03	3,85E-07	2,03E-08	2,98E-01	0,00E+00	2,31E-07	1,99E-06	1,56E-07	-1,99E-04
	EP-Marine	kg N -eq	1,15E-02	2,74E-05	1,66E-05	2,06E+00	0,00E+00	1,64E-05	7,70E-05	3,22E-05	-1,26E-03
	EP-Terrestial	mol N -eq	1,40E-01	3,06E-04	5,16E-05	2,55E+01	0,00E+00	1,84E-04	8,22E-04	1,06E-04	-1,92E-02
	POCP	kg NMVOC -eq	3,97E-02	1,17E-04	1,72E-05	6,46E+00	0,00E+00	7,04E-05	2,07E-04	4,06E-05	-5,22E-03
	ADP-minerals&metals[1]	kg Sb-eq	3,80E-03	1,33E-06	3,74E-08	2,04E-02	0,00E+00	7,99E-07	1,67E-07	3,52E-08	-1,62E-04
	ADP-fossil[1]	MJ	8,80E+01	7,29E-01	4,01E-02	5,75E+04	0,00E+00	4,37E-01	5,15E-01	8,84E-02	-1,98E+00
	WDP[1]	m^3	1,87E+02	7,05E-01	2,16E-01	8,64E+05	0,00E+00	4,23E-01	2,26E+00	7,44E-01	4,23E+00

GWP-total = Global Warming Potential total; GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment: EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption

"Reading example: 9,0 E-03 = 9,0*10-3 = 0,009"
*INA Indicator Not Assessed

1. The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator

Remarks to environmental impacts

Not applicable.

Additional environmental impact indicators

Indicator		Unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
	PM	Disease incidence	4,72E-07	2,95E-09	2,43E-10	4,27E-05	0,00E+00	1,77E-09	1,70E-09	6,16E-10	-7,08E-08
	IRP[2]	kgBq U235 -eq	2,56E-01	3,18E-03	1,84E-04	5,04E+02	0,00E+00	1,91E-03	2,23E-03	3,48E-04	-4,65E-03
	ETP-fw[1]	CTUe	1,11E+03	5,40E-01	5,05E-02	4,03E+04	0,00E+00	3,24E-01	1,60E+00	2,55E+01	-2,69E+02
	HTP-c[1]	CTUh	1,38E-08	0,00E+00	2,00E-12	1,12E-06	0,00E+00	0,00E+00	7,10E-11	1,40E-11	-3,79E-09
	HTP-nc[1]	CTUh	8,39E-07	5,90E-10	4,60E-11	3,88E-05	0,00E+00	3,54E-10	3,92E-09	1,38E-10	-3,24E-07
	SQP[1]	dimensionless	5,91E+01	5,10E-01	9,86E-02	1,39E+04	0,00E+00	3,06E-01	8,17E-02	2,68E-01	-5,88E+00

PM = Particulate Matter emissions; IRP = Ionizing radiation – human health; ETP-fw = Eco toxicity – freshwater; HTP-c = Human toxicity – cancer effects; HTP-nc = Human toxicity – non cancer effects; SQP = Potential Soil Quality Index (dimensionless)

"Reading example: 9,0 E-03 = 9,0*10-3 = 0,009"
*INA Indicator Not Assessed

1. The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator
2. 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.

Resource use											
Indicator		Unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
	PERE	MJ	1,07E+01	1,04E-02	1,34E-03	1,11E+04	0,00E+00	6,26E-03	5,79E-02	1,48E-02	-2,89E+00
	PERM	MJ	1,18E+00	0,00E+00	-2,52E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
	PERT	MJ	1,18E+01	1,04E-02	-2,52E+00	1,11E+04	0,00E+00	6,26E-03	5,79E-02	1,48E-02	-2,89E+00
	PENRE	MJ	7,86E+01	7,29E-01	4,01E-02	5,76E+04	0,00E+00	4,37E-01	5,16E-01	8,84E-02	-1,98E+00
	PENRM	MJ	9,46E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-3,84E+00	0,00E+00	-4,79E+00
	PENRT	MJ	8,81E+01	7,29E-01	4,01E-02	5,76E+04	0,00E+00	4,37E-01	-3,33E+00	8,84E-02	-6,77E+00
	SM	kg	8,33E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,85E-04	4,67E-02
	RSF	MJ	1,26E-01	3,73E-04	3,14E-05	8,12E+02	0,00E+00	2,24E-04	1,35E-03	1,04E-04	4,04E-03
	NRSF	MJ	9,00E-02	1,33E-03	7,44E-05	1,93E+02	0,00E+00	8,00E-04	-1,04E-06	2,56E-03	-1,25E-01
	FW	m^3	8,38E-02	7,79E-05	3,67E-05	4,88E+01	0,00E+00	4,68E-05	7,96E-04	8,90E-05	-7,01E-03

PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non renewable primary energy resources used as raw materials; PENRT = Total use of non renewable primary energy resources; SM = Use of secondary materials; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Net use of fresh water

"Reading example: 9,0 E-03 = 9,0*10-3 = 0,009"
*INA Indicator Not Assessed

End of life - Waste

Indicator		Unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
	HWD	kg	3,02E-02	3,76E-05	2,07E-06	8,66E+00	0,00E+00	2,25E-05	8,98E-07	1,49E-02	-1,98E-03
	NHWD	kg	1,23E+00	3,54E-02	1,76E-01	1,95E+02	0,00E+00	2,13E-02	1,65E-03	2,32E-01	-9,24E-02
	RWD	kg	2,30E-04	4,96E-06	1,52E-07	4,11E-01	0,00E+00	2,98E-06	7,18E-08	3,84E-07	-4,01E-06

HWD = Hazardous waste disposed; NHWD = Non-hazardous waste disposed; RWD = Radioactive waste disposed

"Reading example: 9,0 E-03 = 9,0*10-3 = 0,009"
*INA Indicator Not Assessed

End of life - Output flow

Indicator		Unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
	CRU	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
	MFR	kg	1,48E-04	0,00E+00	7,04E-02	0,00E+00	0,00E+00	0,00E+00	6,67E-02	1,71E-05	-1,83E-03
	MER	kg	1,78E-04	0,00E+00	1,17E-03	0,00E+00	0,00E+00	0,00E+00	1,90E-01	4,18E-07	-2,40E-04
	EEE	MJ	4,85E-06	0,00E+00	4,34E-03	0,00E+00	0,00E+00	0,00E+00	2,92E-01	2,71E-05	-5,89E-04
	EET	MJ	7,34E-05	0,00E+00	6,57E-02	0,00E+00	0,00E+00	0,00E+00	4,42E+00	4,10E-04	-8,91E-03

CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported energy electrical; EET = Exported energy thermal

"Reading example: 9,0 E-03 = 9,0*10-3 = 0,009"
*INA Indicator Not Assessed

Biogenic Carbon Content

Indicator	Unit	At the factory gate
Biogenic carbon content in product	kg C	3,07E-04
Biogenic carbon content in accompanying packaging	kg C	3,52E-02

Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO2

Additional requirements

Greenhouse gas emissions from the use of electricity in the manufacturing phase

National production mix from import, low voltage (production of transmission lines, in addition to direct emissions and losses in grid) of applied electricity for the manufacturing process (A3).

Electricity mix	Source	Amount	Unit
Electricity, Germany (kWh)	ecoinvent 3.6	585,93	g CO2-eq/kWh
Electricity, low voltage, photovoltaic, 3kWp slanted-roof installation, multi-Si, panel, mounted (kWh) - DE	ecoinvent 3.6	96,10	g CO2-eq/kWh

Dangerous substances

The product contains no substances given by the REACH Candidate list.

Indoor environment

Not applicable.

Additional Environmental Information

Additional environmental impact indicators required in NPCR Part A for construction products										
Indicator	**Unit**	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
GWPIOBC	kg CO_2 -eq	6,29E+00	4,82E-02	1,27E-02	3,02E+03	0,00E+00	2,89E-02	4,87E-01	2,52E-02	-1,20E-01

GWP-IOBC: Global warming potential calculated according to the principle of instantaneous oxidation. In order to increase the transparency of biogenic carbon contribution to climate impact, the indicator GWP-IOBC is required as it declares climate impacts calculated according to the principle of instantaneous oxidation. GWP-IOBC is also referred to as GWP-GHG in context to Swedish public procurement legislation.

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