epd-norge
Global program operatør

Environmental product declaration

in accordance with ISO 14025 and EN 15804+A2

Cooker guard mKomfy Hybrid 25R

The Norwegian EPD Foundation

Owner of the declaration:
Elektroskandia Norge AS

Product:
Cooker guard mKomfy Hybrid 25R

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-6222-5486-EN

Registration number:

NEPD-6222-5486-EN

Issue date: 04.03.2024

Valid to: 04.03.2029

EPD software:
LCAno EPD generator ID: 249944

General information

Product

Cooker guard mKomfy Hybrid 25R

Program operator:

Post Box 5250 Majorstuen, 0303 Oslo, Norway
The Norwegian EPD Foundation
Phone: +47 23 08 80 00
web: post@epd-norge.no

Declaration number:

NEPD-6222-5486-EN

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

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.

Declared unit:

1 pcs Cooker guard mKomfy Hybrid 25R

Declared unit with option:

A1,A2,A3,A4,A5,B6,C1,C2,C3,C4,D

Functional unit:

1 pc of cooker guard, installed and used to protect a kitchen stove against fire hazards, during a service life of 12 years, including waste treatment at end-of-life.

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

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)

Owner of the declaration:

Elektroskandia Norge AS
Contact person: Nils - Arne Grande
Phone: +47 97 66 22 12
e-mail: nils-arne.grande@onninen.com

Manufacturer:

CTM Lyng
Verkstedveien 19
7125 Vanvikan, Norway

Place of production:

CTM Lyng production site Vanvikan (Norway)
Verkstedveien 19
7125 Vanvikan, Norway

Management system:

ISO 14001, ISO 9001

Organisation no:

977 454 700

Issue date: 04.03.2024

Valid to: 04.03.2029

Year of study:

2023

Comparability:

EPD of construction products may not be comparable if they not comply with EN 15804 and seen in a building context.

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: Vidar Gangstad - CTM Lyng AS

Reviewer of company-specific input data and EPD: Nils Arne Grande, Elektroskandia Norge AS

Approved:

Håkon Hauan
Managing Director of EPD-Norway

Product

Product description:

Cooker Guard with wireless sensor for ceiling or hood/extractor

Product specification

mKomfy Hybrid is a cooker guard for ceiling or hood/extractor mounting 70-210 cm over hob.
It has additional safety features and possibility of connecting additional equipment.
The sensor can be used with batteries (3xAA) or external power supply (not included).

Materials	kg	%
Electronic - Battery alkaline	0,07	17,00
Electronic - Cable	0,09	21,49
Electronic - Capacitor	0,00	0,74
Electronic - Diode	0,00	0,09
Electronic - Inductor	0,00	0,58
Electronic - Integrated circuit	0,00	0,42
Electronic - LED chip	0,00	0,01
Electronic - Printed wiring board	0,03	6,64
Electronic - Resistor	0,00	0,19
Electronic - Solder material	0,00	0,03
Electronic - Switch	0,00	0,22
Electronic - Transistor	0,00	0,01
Electronic - Unspecified	0,02	5,07
Metal - Copper	0,01	1,91
Metal - Stainless steel	0,00	0,71
Metal - Steel	0,00	1,11
Plastic - Acrylonitrile butadiene styrene (ABS)	0,12	28,59
Plastic - Polycarbonate (PC)	0,02	3,96
Plastic - Polyethylene (LDPE)	0,00	0,04
Plastic compound - PC and ABS	0,04	10,91
Tape	0,00	0,30
Total	0,41	

Packaging	kg	%
Packaging - Cardboard	0,04	52,44
Packaging - Paper	0,04	46,66
Packaging - Plastic	0,00	0,90
Total incl. packaging	0,49	

Technical data:

Link to the CE Declaration and product data on our website:
https://ctmlyng.no/produkter/komfyrvakt-mkomfy-hybrid-25r/

Market:

Norway.

Reference service life, product

12 years. Estimated based on the characteristics of the product and the intended application.

Reference service life, building or construction works

60 years. Standard service life for buildings according to the PCR Part A of EPD Norway.

LCA: Calculation rules

Declared unit:

1 pcs Cooker guard mKomfy Hybrid 25R

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:

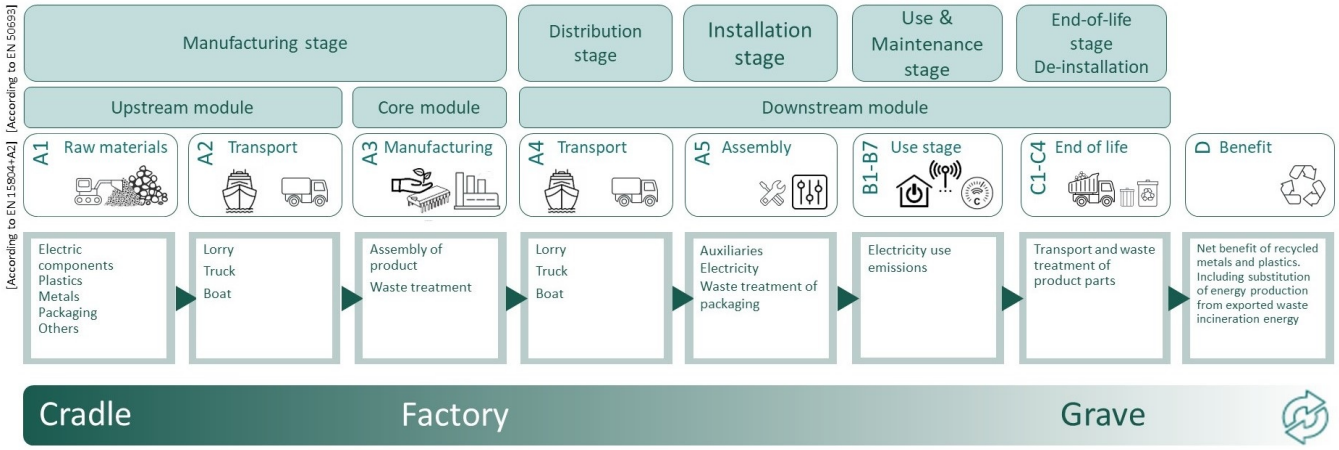
Specific data for the product composition are provided by the manufacturer. The data represent the production of the declared product and were collected for EPD development in the year of study. Background data is based on EPDs according to EN 15804 and different LCA databases. The data quality of the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

Materials	Source	Data quality	Year
Electronic - Battery alkaline	Olivetti et al. (2011) + ecoinvent 3.6	Scientific literature + database	2019
Electronic - Cable	ecoinvent 3.6	Database	2019
Electronic - Capacitor	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 - LED chip	Scholand et al. (2012) + Ecoinvent 3.6	Scientific literature + database	2017
Electronic - Printed wiring board	Modified ecoinvent 3.6	Database	2019
Electronic - Resistor	ecoinvent 3.6	Database	2019
Electronic - Solder material	ecoinvent 3.6	Database	2019
Electronic - Switch	ecoinvent 3.6	Database	2019
Electronic - Transistor	ecoinvent 3.6	Database	2019
Electronic - Unspecified	ecoinvent 3.6	Database	2019
Metal - Copper	ecoinvent 3.6	Database	2019
Metal - Stainless steel	ecoinvent 3.6	Database	2019
Metal - Steel	ecoinvent 3.6	Database	2019
Packaging - Cardboard	ecoinvent 3.6	Database	2019
Packaging - Paper	ecoinvent 3.6	Database	2019
Packaging - Plastic	ecoinvent 3.6	Database	2019
Plastic - Acrylonitrile butadiene styrene (ABS)	ecoinvent 3.6	Database	2019
Plastic - Polycarbonate (PC)	ecoinvent 3.6	Database	2019
Plastic - Polyethylene (LDPE)	ecoinvent 3.6	Database	2019
Plastic compound - PC and ABS	ecoinvent 3.6	Database	2019
Tape	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:

LCA: Scenarios and additional technical information

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

Module A4 = In A4, a transport distance from the production site in Vanvikan to Elektroskandia's warehouse in Langhus was included. A distance of 300 km was also added as additional transport to market.

Modules A5 = installation is done by manual labour. 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 devices). 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 of the stove guard, the following scenario parameters have been applied:

- Power consumed (Puse) = 2.99 watt
- Reference service life (RSL) = 12 years
- Number of hours in a year = 8760 hours (according to section 4.2.3.5 of the PCR)
- Operating time coefficient (a) = 100 percent (according to section 4.2.3.5 of the PCR)
- Reference current = 100% (according to section 4.2.3.5 of the PCR – used to calculate Puse)

In our calculation, we have considered that the product draws current continuously, and therefore, we have used a reference current value of 100% in the calculation (instead of 50%). This represents the total load that the product imposes on the system during constant operation. We include 3 pieces of AA batteries with the product, and have therefore also added the energy they deliver: Capacity 2.6 Ah × 3 pcs × Voltage 1.5 V / 1000 = Energy 0.0117 (kWh).

Module C1 = De-installation is done by manual labour. 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 devices).

Module C2 = Transport from the installation site to the nearest waste treatment facility is based on an average distance of 300 km.

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 4 (km) - Europe	36,7 %	300	0,044	l/tkm	13,20

Assembly (A5)	Unit	Value			
Waste, packaging, corrugated board box, to average treatment - A5 including transport (kg)	kg	0,04			
Waste, packaging, paper printed, to average treatment - A5 including transport (kg)	kg	0,04			
Waste, packaging, plastic film (LDPE), to average treatment - A5 including transport (kg)	kg	0,00			

Operational energy (B6)	Unit	Value			
Electricity, Norway (kWh)	kWh/DU	314,31			

Transport to waste processing (C2)	Capacity utilisation (incl. return) %	Distance (km)	Fuel/Energy Consumption	Unit	Value (Liter/tonne)
Truck, 16-32 tonnes, EURO 5 (km) - Europe	36,7 %	300	0,044	l/tkm	13,20

Waste processing (C3)	Unit	Value			
Acrylonitrile butadiene styrene (ABS) to recycling	kg	0,02			
Copper to recycling (kg)	kg	0,01			
Steel to recycling (kg)	kg	0,01			
Waste treatment of plastic mixture, incineration with energy recovery and fly ash extraction (kg)	kg	0,12			
Waste treatment of polyethylene (PE), incineration with energy recovery and fly ash extraction (kg)	kg	0,00			
Waste treatment per kg electronics scrap from PWB, with components, recycling of metals C3 (kg)	kg	0,03			
Waste treatment per kg used electronic cable, manual seperation (kg)	kg	0,01			
Waste treatment per kg used electronic plug connector, manual seperation (kg)	kg	0,08			
Waste treatment per kg used PWB, shredding and separation - C3 (kg)	kg	0,06			

Disposal (C4)	Unit	Value			
Landfilling of ashes from incineration of Plastic mixture, process per kg ashes and residues (kg)	kg	0,00			
Landfilling of ashes from incineration of Polyethylene (PE), process per kg ashes and residues (kg)	kg	0,00			
Landfilling of copper (kg)	kg	0,00			
Landfilling of hazardous waste (kg)	kg	0,10			
Landfilling of plastic mixture (kg)	kg	0,12			
Landfilling of steel (kg)	kg	0,00			

Benefits and loads beyond the system boundaries (D)	Unit	Value			
Substitution of acrylonitrile butadiene styrene, ABS, granulate (kg)	kg	0,02			
Substitution of electricity, in Norway (MJ)	MJ	0,18			
Substitution of primary copper with net scrap (kg)	kg	0,00			
Substitution of primary metals with net scrap from PWB, with components (kg)	kg	0,01			
Substitution of primary steel with net scrap (kg)	kg	0,01			
Substitution of thermal energy, district heating, in Norway (MJ)	MJ	2,71			

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	A2	A3	A4	A5
	GWP-total	kg CO_2 -eq	1,01E+01	2,53E-01	9,11E-03	2,40E-02	1,45E-01
	GWP-fossil	kg CO_2 -eq	1,01E+01	2,53E-01	8,58E-03	2,39E-02	1,42E-03
	GWP-biogenic	kg CO_2 -eq	-1,09E-01	9,14E-05	4,98E-04	9,85E-06	1,44E-01
	GWP-luluc	kg CO_2 -eq	1,67E-02	1,19E-04	3,06E-05	8,44E-06	4,54E-07
	ODP	kg CFC11 -eq	6,94E-07	5,57E-08	5,44E-10	5,51E-09	2,91E-10
	AP	mol H+ -eq	9,15E-02	3,35E-03	5,92E-05	1,22E-04	6,50E-06
	EP-FreshWater	kg P -eq	1,78E-03	1,74E-06	5,40E-07	1,90E-07	1,13E-08
	EP-Marine	kg N -eq	1,25E-02	8,15E-04	7,24E-06	4,15E-05	2,19E-06
	EP-Terrestial	mol N -eq	1,46E-01	9,07E-03	8,78E-05	4,57E-04	2,33E-05
	POCP	kg NMVOC -eq	4,37E-02	2,47E-03	2,37E-05	1,31E-04	6,71E-06
	ADP-minerals&metals[1]	kg Sb-eq	4,67E-03	5,18E-06	5,56E-07	6,54E-07	3,34E-08
	ADP-fossil[1]	MJ	1,32E+02	3,61E+00	1,04E-01	3,64E-01	1,92E-02
	WDP[1]	m^3	3,49E+02	2,26E+00	1,76E+01	3,47E-01	2,50E-02

Indicator		**Unit**	B6	C1	C2	C3	C4	D
	GWP-total	kg CO_2 -eq	7,65E+00	0,00E+00	2,42E-02	3,04E-01	3,46E-02	-6,22E-01
	GWP-fossil	kg CO_2 -eq	7,41E+00	0,00E+00	2,42E-02	3,04E-01	3,44E-02	-6,19E-01
	GWP-biogenic	kg CO_2 -eq	2,05E-01	0,00E+00	9,85E-06	5,37E-05	1,96E-05	-1,91E-03
	GWP-luluc	kg CO_2 -eq	3,06E-02	0,00E+00	8,44E-06	5,82E-05	1,86E-04	-1,25E-03
	ODP	kg CFC11 -eq	5,08E-07	0,00E+00	5,51E-09	2,34E-09	1,46E-09	-1,14E-03
	AP	mol H+ -eq	5,79E-02	0,00E+00	9,87E-05	1,65E-04	1,08E-04	-3,22E-02
	EP-FreshWater	kg P -eq	5,33E-04	0,00E+00	1,90E-07	8,44E-07	9,50E-07	-1,79E-04
	EP-Marine	kg N -eq	6,37E-03	0,00E+00	2,93E-05	4,80E-05	3,72E-05	-1,70E-03
	EP-Terrestial	mol N -eq	8,29E-02	0,00E+00	3,24E-04	5,12E-04	2,51E-04	-2,32E-02
	POCP	kg NMVOC -eq	2,23E-02	0,00E+00	9,91E-05	1,33E-04	1,18E-04	-6,72E-03
	ADP-minerals&metals[1]	kg Sb-eq	5,53E-04	0,00E+00	6,54E-07	2,48E-07	1,31E-07	-7,28E-04
	ADP-fossil[1]	MJ	1,01E+02	0,00E+00	3,64E-01	2,97E-01	2,60E-01	-8,73E+00
	WDP[1]	m^3	1,76E+04	0,00E+00	3,47E-01	3,02E+00	4,60E-01	-1,66E+01

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

Additional environmental impact indicators

Indicator		Unit	A1	A2	A3	A4	A5
	PM	Disease incidence	5,62E-07	1,07E-08	4,28E-10	1,74E-09	9,60E-11
	IRP[2]	kgBq U235 -eq	4,33E-01	1,56E-02	1,84E-03	1,59E-03	8,24E-05
	ETP-fw[1]	CTUe	9,53E+02	2,53E+00	4,68E-01	2,68E-01	2,56E-02
	HTP-c[1]	CTUh	1,24E-08	0,00E+00	2,20E-11	0,00E+00	0,00E+00
	HTP-nc[1]	CTUh	5,79E-07	2,08E-09	5,32E-10	2,90E-10	3,20E-11
	SQP[1]	dimensionless	4,72E+01	1,88E+00	5,27E-02	2,51E-01	1,32E-02

Indicator		Unit	B6	C1	C2	C3	C4	D
	PM	Disease incidence	4,15E-07	0,00E+00	1,74E-09	9,78E-10	1,98E-09	-7,53E-08
	IRP[2]	kgBq U235 -eq	1,84E+00	0,00E+00	1,59E-03	1,44E-03	4,86E-04	-2,48E-02
	ETP-fw[1]	CTUe	4,61E+02	0,00E+00	2,68E-01	1,06E+00	5,46E+00	-2,30E+02
	HTP-c[1]	CTUh	2,20E-08	0,00E+00	0,00E+00	4,99E-10	9,40E-11	-1,25E-09
	HTP-nc[1]	CTUh	5,18E-07	0,00E+00	2,90E-10	2,93E-08	6,78E-10	-8,52E-08
	SQP[1]	dimensionless	5,10E+01	0,00E+00	2,51E-01	7,46E-02	6,92E-01	-6,23E+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	A2	A3	A4	A5
	PERE	MJ	1,28E+01	4,13E-02	1,31E+00	5,14E-03	3,19E-04
	PERM	MJ	9,22E-01	0,00E+00	0,00E+00	0,00E+00	-9,22E-01
	PERT	MJ	1,37E+01	4,13E-02	1,31E+00	5,14E-03	-9,22E-01
	PENRE	MJ	1,23E+02	3,61E+00	1,04E-01	3,64E-01	1,92E-02
	PENRM	MJ	1,01E+01	0,00E+00	0,00E+00	0,00E+00	-3,23E-02
	PENRT	MJ	1,32E+02	3,61E+00	1,04E-01	3,64E-01	-1,30E-02
	SM	kg	9,91E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00
	RSF	MJ	2,09E-01	1,29E-03	1,04E-03	1,84E-04	1,05E-05
	NRSF	MJ	5,69E-02	6,88E-03	2,57E-03	6,57E-04	4,32E-05
	FW	m^3	1,03E-01	3,27E-04	9,96E-03	3,84E-05	9,09E-06

Indicator		Unit	B6	C1	C2	C3	C4	D
	PERE	MJ	1,31E+03	0,00E+00	5,14E-03	3,82E-02	8,27E-02	-2,01E+00
	PERM	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
	PERT	MJ	1,31E+03	0,00E+00	5,14E-03	3,82E-02	8,27E-02	-2,01E+00
	PENRE	MJ	1,01E+02	0,00E+00	3,64E-01	2,97E-01	2,60E-01	-8,73E+00
	PENRM	MJ	0,00E+00	0,00E+00	0,00E+00	-1,01E+01	0,00E+00	0,00E+00
	PENRT	MJ	1,01E+02	0,00E+00	3,64E-01	-9,80E+00	2,60E-01	-8,73E+00
	SM	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,17E-03	4,53E-03
	RSF	MJ	1,03E+00	0,00E+00	1,84E-04	6,21E-04	2,05E-04	2,48E-04
	NRSF	MJ	2,56E+00	0,00E+00	6,57E-04	-2,90E-05	1,84E-02	-7,44E-02
	FW	m^3	9,79E+00	0,00E+00	3,84E-05	4,98E-04	1,60E-04	-7,71E-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	A2	A3	A4	A5
	HWD	kg	4,22E-02	1,98E-04	4,84E-04	1,86E-05	0,00E+00
	NHWD	kg	1,11E+00	1,23E-01	8,59E-03	1,74E-02	8,47E-02
	RWD	kg	3,36E-04	2,46E-05	9,21E-07	2,48E-06	0,00E+00

Indicator		Unit	B6	C1	C2	C3	C4	D
	HWD	kg	6,50E-02	0,00E+00	1,86E-05	1,43E-05	9,88E-02	-1,95E-03
	NHWD	kg	7,79E+00	0,00E+00	1,74E-02	1,93E-02	1,25E-01	-9,50E-02
	RWD	kg	9,06E-04	0,00E+00	2,48E-06	7,11E-07	1,95E-07	-2,13E-05

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	A2	A3	A4	A5
	CRU	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
	MFR	kg	0,00E+00	0,00E+00	3,66E-03	0,00E+00	7,85E-02
	MER	kg	0,00E+00	0,00E+00	2,36E-03	0,00E+00	5,87E-03
	EEE	MJ	0,00E+00	0,00E+00	1,53E-03	0,00E+00	4,80E-03
	EET	MJ	0,00E+00	0,00E+00	2,32E-02	0,00E+00	7,26E-02

Indicator		Unit	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
	MFR	kg	0,00E+00	0,00E+00	0,00E+00	4,23E-02	1,05E-05	1,89E-03
	MER	kg	0,00E+00	0,00E+00	0,00E+00	1,16E-01	1,24E-06	-1,18E-05
	EEE	MJ	0,00E+00	0,00E+00	0,00E+00	1,79E-01	2,53E-05	-3,35E-05
	EET	MJ	0,00E+00	0,00E+00	0,00E+00	2,71E+00	3,83E-04	-5,07E-04

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	0,00E+00
Biogenic carbon content in accompanying packaging	kg C	3,92E-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	Data source	Amount	Unit
Electricity, Norway (kWh)	ecoinvent 3.6	24,33	g CO2-eq/kWh

Dangerous substances

The product contains no substances on the REACH Candidate list at or above 100 ppm, 0,01 % by weight.

Indoor environment

Additional Environmental Information

Additional environmental impact indicators required in NPCR Part A for construction products							
Indicator	**Unit**	A1	A2	A3	A4	A5	
GWPIOBC	kg CO_2 -eq	1,02E+01	2,53E-01	9,06E-03	2,40E-02	6,40E-04	

Indicator	**Unit**	B6	C1	C2	C3	C4	D
GWPIOBC	kg CO_2 -eq	7,63E+00	0,00E+00	2,42E-02	3,04E-01	2,68E-02	-6,20E-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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epd-norway Global Program Operator	**Program operator and publisher** The Norwegian EPD Foundation Post Box 5250 Majorstuen, 0303 Oslo, Norway	Phone: +47 23 08 80 00 e-mail: post@epd-norge.no web: www.epd-norge.no
onninen Elektroskandia Norge	**Owner of the declaration:** Elektroskandia Norge AS Postboks 143, 1403 Langhus	Phone: +47 97 66 22 12 e-mail: nils-arne.grande@onninen.com web: elektroskandia.no
LCA.no	**Author of the Life Cycle Assessment** LCA.no AS Dokka 6B, 1671	Phone: +47 916 50 916 e-mail: post@lca.no web: www.lca.no
LCA.no	**Developer of EPD generator** LCA.no AS Dokka 6B,1671 Kråkerøy	Phone: +47 916 50 916 e-mail: post@lca.no web: www.lca.no
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