epd-norge
Global program operatør

Environmental product declaration

in accordance with ISO 14025 and EN 15804+A2

LED UGR Light rails for Troldtekt

The Norwegian EPD Foundation

Owner of the declaration:
ECOFOSS A/S

Product:
LED UGR Light rails for Troldtekt

Declared unit:
1 pcs

This declaration is based on Product Category Rules:
CEN Standard EN 15804:2012+A2:2019 serves as core PCR
IBU PCR - Part B for luminaires, lamps, and components for luminaires

Program operator:
The Norwegian EPD Foundation

Declaration number:
NEPD-11577-11519

Registration number:
NEPD-11577-11519

Issue date:
27.06.2025

Valid to:
27.06.2030

EPD software:
LCAno EPD generator ID: 1054365

General information

Product

LED UGR Light rails for Troldtekt

Owner of the declaration:

ECOFOSS A/S
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Program operator:

The Norwegian EPD Foundation
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web: www.epd-norge.no

Manufacturer:

ECOFOSS A/S

Declaration number:

NEPD-11577-11519

Place of production:

ECOFOSS A/S
Mariendalsvej 28,
8800 Viborg, Denmark

This declaration is based on Product Category Rules:

CEN Standard EN 15804:2012+A2:2019 serves as core PCR
IBU PCR - Part B for luminaires, lamps, and components for luminaires

Management system:

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:

Declared unit:

1 pcs LED UGR Light rails for Troldtekt

Issue date:

27.06.2025

Declared unit with option:

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

Valid to:

27.06.2030

Year of study:

2024

Functional unit:

1 lighting system used in an office in Denmark for 15 years, in accordance with IBU PCR - Part B for luminaires, lamps and components for luminaires.

Comparability:

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

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 EPD2021.09, 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: Emil Pedersen - Nordic LCA

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

Verification of EPD tool:

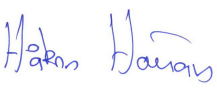
Independent third party verification of the EPD tool, background data and test-EPD in accordance with EPDNorway's procedures and guidelines for verification and approval of EPD tools. Approval number: NEPDT41.

Third party verifier:

Vito D'Incognito, Take Care International

(no signature required)

Approved:



Håkon Hauan, CEO EPD-Norge

Product

Product description:

The green:ID LED light rails are designed for easy installation in Troldtekt and wood-concrete ceilings, creating a clean and minimalist look. The 60 cm rails are mounted at the short edges of the panels, so there's no need to cut into the Troldtekt surface. This is different from traditional recessed spotlights, which often require a hole in the center of the panel for installation. The rails also come in a 120 cm version.

Product specification

Please visit the product page on our website for more technical information: ecofoss.dk

Materials	kg	%
Electronic - Cable	0,085	23,46
Electronic - Connector	0,0011	0,32
Electronic - LED strip	0,030	8,28
Electronic - Printed wiring board	0,015	4,14
Electronic - Solder material	0,00010	0,027
Metal - Aluminium	0,17	46,92
Paint, water-based	0,0095	2,62
Plastic - Acrylonitrile butadiene styrene (ABS)	0,0015	0,41
Plastic - Plexiglass (PMMA)	0,030	8,28
Plastic - Polycarbonate (PC)	0,020	5,52
Total	0,36	100,00

Packaging	kg	%
Packaging - Paper	0,10	100,00
Total incl. packaging	0,46	100,00

Technical data:

This light rail has a special reflector that provides exceptionally low glare levels of UGR<16 and UGR<19, respectively.

The rails are available in three color combinations: those with a black reflector have UGR<16, while those with a white reflector have UGR<19. The LED rails are offered in both 3,000 Kelvin and 4,000 Kelvin variants and come in two heights to fit ceiling panels with heights of 25 mm and 35 mm.

Constructional data	60 cm (25-35 mm)	120 cm (25-35 mm)	Unit
Width x length	600*56	120*56	mm
Luminous energy	2023-2250,2	3466,46-3906	lm s
Luminous flux	2023-2250,2	3466,46-3906	lm
Luminous intensity	4317-4424	7479-7966	cd
Luminance	103-136	186-199	cd/m2
Illuminance	2023-2187	3466-3906	lx
Luminous emittance	630-660	630-660	lx
Luminous efficiency	87,23-90,57	97,08-108,97	lm/W
Nonglaring	UGR<16	UGR<19	-
Light distribution	494-700 at 24°	900-1100 at 24°	cd

Market:

Denmark and other nordic countries.

Reference service life, product

15 years lifetime for the installation according to the used scenario.

Reference service life, building or construction works

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

LCA: Calculation rules

Declared unit:

1 pcs LED UGR Light rails for Troldtekt

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%) can be excluded. 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 - Cable	Ecoinvent 3.6	Database	2019
Electronic - Connector	Material composition + ecoinvent 3.6	Supplier data + database	2019
Electronic - LED strip	Supplier	EPD	
Electronic - Printed wiring board	ecoinvent 3.6	Database	2019
Electronic - Solder material	ecoinvent 3.6	Database	2019
Metal - Aluminium	Modified ecoinvent 3.6	Database	2019
Packaging - Paper	ecoinvent 3.6	Database	2019
Paint, water-based	ecoinvent 3.6	Database	2019
Plastic - Acrylonitrile butadiene styrene (ABS)	ecoinvent 3.6	Database	2019
Plastic - Plexiglass (PMMA)	ecoinvent 3.6	Database	2019
Plastic - Polycarbonate (PC)	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:

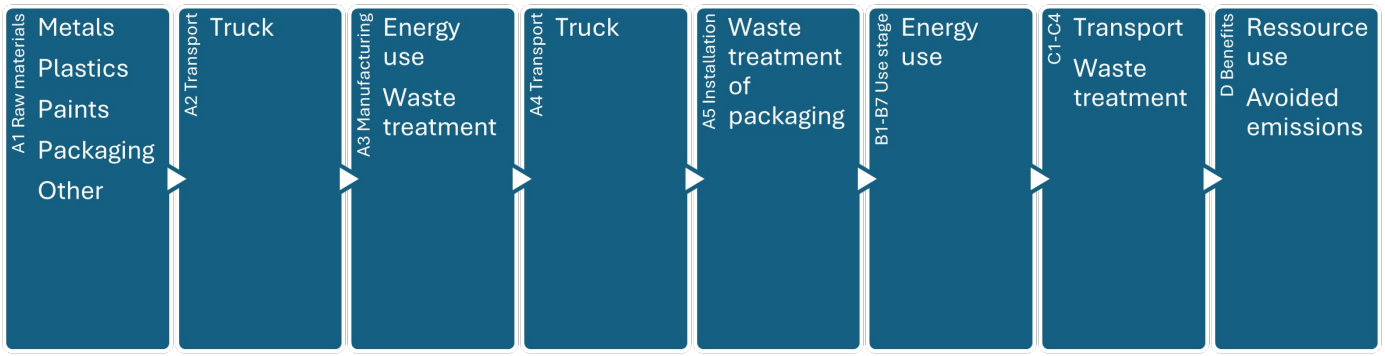
The analysis is a cradle-to-grave study of a single luminaire, encompassing its manufacturing, installation, use according to a specific lighting regime and lifespan, and waste treatment at the end of its life.

A1-A5: This phase covers the extraction and production of raw materials, transportation to the production site, the manufacturing process, transport to the market, and assembly.

B6: This phase represents the operational energy use of the luminaire, based on a defined usage scenario.

C1-C4: This phase includes the de-installation of the luminaire, average transport from the building site to the waste treatment facility, waste processing, and disposal.

D: This module evaluates the recyclability of metals and plastics, granting producers a credit for the net scrap generated at the product's end of life. Benefits from recycling are calculated according to the formula in EN 15804:2012+A2:2019. Additionally, the substitution of heat and electricity produced through the energy recovery of plastic insulation and other components is included in this module.



Additional technical information:

Please visit our website www.ecofoss.dk for more technical information.

LCA: Scenarios and additional technical information

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

Module B6: The operational energy use of the luminaire is calculated based on the methodology provided in IBU PCR Part B for luminaires, lamps, and components for luminaires. To calculate the electricity use of the luminaire, the following scenario parameters have been applied:

- User scenario = Office
- Active power of the luminaire (Pa) = 24 watt
- Passive power of the luminaire (Pp) = 1 watt
- Daylight time usage (tD) = 8,5 hours
- Non-daylight time usage (tN) = 1 hours
- Standard year time (ty) = 8760 hours
- The occupancy depency factor (FO) = 1 (factor, no unit)
- The daylight dependency factor (FD) = 0,9 (factor, no unit)
- The product specific constant illuminance factor (FCP) = 1 (factor, no unit)
- The non-daylight dimming factor (FN) = 1 (factor, no unit)
- The application specific empiric lifetime of the luminaire in years (a) = 15 years (corresponding to the reference service life of the product)

Transport from production place to user (A4)	Capacity utilisation (incl. return) %	Distance (km)	Fuel/Energy Consumption	Unit	Value (Liter/tonne)
Ship, Freight, Transoceanic (kgkm)	65,0 %	19119	0,003	l/tkm	57,36
Truck, unspecified (kgkm) - RER	48,7 %	69	0,051	l/tkm	3,50
Truck, unspecified (kgkm) - RER	48,7 %	150	0,051	l/tkm	7,65
Truck, unspecified (kgkm) - RoW	48,7 %	34	0,051	l/tkm	1,71

Assembly (A5)	Unit	Value			
Waste, packaging, kraft paper, unbleached, to average treatment (kg) - A5, inkl. 85 km transp.	kg	0,10			

Operational energy (B6)	Unit	Value			
Electricity, Denmark (kWh)	kWh	134,50			

Transport to waste processing (C2)	Capacity utilisation (incl. return) %	Distance (km)	Fuel/Energy Consumption	Unit	Value (Liter/tonne)
Truck, unspecified (kgkm) - RER	48,7 %	300	0,051	l/tkm	15,30

Waste processing (C3)	Unit	Value			
Waste treatment per kg Non-hazardous waste, incineration with fly ash extraction - C3 (kg)	kg	0,46			
Balancing waste - NRPM (MJ) - (Type 4)	MJ	3,032			

Disposal (C4)	Unit	Value			
Landfilling of ashes from incineration of Non-hazardous waste, process per kg ashes and residues - C4 (kg)	kg	0,10			

Benefits and loads beyond the system boundaries (D)	Unit	Value			
Substitution of District heating, Denmark (MJ)	MJ	4,15			
Substitution of Electricity, Denmark (kWh)	kWh	0,27			

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	1,09E+01	4,76E-03	-3,87E-01	9,86E-02	1,76E-01
	GWP-fossil	kg CO_2 -eq	1,11E+01	4,76E-03	1,06E-01	9,86E-02	1,62E-03
	GWP-biogenic	kg CO_2 -eq	-1,48E-01	1,93E-06	-4,93E-01	2,94E-05	1,75E-01
	GWP-luluc	kg CO_2 -eq	1,23E-02	1,73E-06	1,25E-05	6,30E-05	5,35E-07
	ODP	kg CFC11 -eq	6,12E-07	1,04E-09	7,67E-10	2,12E-08	3,42E-10
	AP	mol H+ -eq	9,43E-02	2,71E-05	5,59E-04	2,79E-03	7,66E-06
	EP-FreshWater	kg P -eq	1,24E-03	4,56E-08	2,30E-06	4,74E-07	1,33E-08
	EP-Marine	kg N -eq	1,23E-02	9,53E-06	1,14E-04	6,96E-04	2,53E-06
	EP-Terrestial	mol N -eq	1,41E-01	1,05E-04	1,26E-03	7,74E-03	2,74E-05
	POCP	kg NMVOC -eq	3,97E-02	3,00E-05	3,26E-04	2,02E-03	7,88E-06
	ADP-minerals&metals[1]	kg Sb-eq	4,57E-04	1,20E-07	2,66E-07	1,02E-06	3,94E-08
	ADP-fossil[1]	MJ	1,22E+02	7,15E-02	9,38E-01	1,30E+00	2,26E-02
	WDP[1]	m^3	2,34E+02	2,45E-02	5,73E-02	4,16E-01	2,87E-02

Indicator		**Unit**	B6	C1	C2	C3	C4	D
	GWP-total	kg CO_2 -eq	4,55E+01	0	1,83E-02	1,08E+00	3,04E-04	-1,97E-01
	GWP-fossil	kg CO_2 -eq	4,50E+01	0	1,82E-02	1,08E+00	3,04E-04	-1,96E-01
	GWP-biogenic	kg CO_2 -eq	4,66E-01	0	7,83E-06	0,00E+00	0,00E+00	-4,04E-04
	GWP-luluc	kg CO_2 -eq	6,05E-02	0	6,46E-06	1,82E-05	9,34E-08	-2,29E-04
	ODP	kg CFC11 -eq	1,53E-06	0	4,16E-09	7,16E-09	1,02E-10	-7,15E-09
	AP	mol H+ -eq	1,80E-01	0	1,04E-04	1,54E-04	2,22E-06	-1,23E-03
	EP-FreshWater	kg P -eq	3,68E-03	0	1,50E-07	7,16E-07	3,06E-09	-1,23E-05
	EP-Marine	kg N -eq	3,03E-02	0	3,72E-05	5,77E-05	7,92E-07	-2,03E-04
	EP-Terrestial	mol N -eq	4,33E-01	0	4,10E-04	5,72E-04	8,73E-06	-2,82E-03
	POCP	kg NMVOC -eq	9,23E-02	0	1,17E-04	1,40E-04	2,53E-06	-6,19E-04
	ADP-minerals&metals[1]	kg Sb-eq	4,00E-04	0	4,72E-07	2,86E-07	5,40E-09	-1,12E-06
	ADP-fossil[1]	MJ	5,83E+02	0	2,80E-01	1,86E-01	7,41E-03	-2,31E+00
	WDP[1]	m^3	9,06E+03	0	2,65E-01	-3,16E+00	1,42E-02	-2,29E+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	7,39E-07	4,18E-10	7,55E-09	1,40E-09	1,13E-10
	IRP[2]	kgBq U235 -eq	3,27E-01	2,98E-04	6,28E-04	5,58E-03	9,68E-05
	ETP-fw[1]	CTUe	6,17E+02	5,81E-02	2,82E+00	7,97E-01	3,02E-02
	HTP-c[1]	CTUh	1,16E-08	0,00E+00	2,60E-11	0,00E+00	1,00E-12
	HTP-nc[1]	CTUh	5,45E-07	7,00E-11	1,17E-09	2,33E-10	3,80E-11
	SQP[1]	dimensionless	5,53E+01	6,00E-02	2,05E-01	3,44E-01	1,52E-02

Indicator		Unit	B6	C1	C2	C3	C4	D
	PM	Disease incidence	8,84E-07	0	1,66E-09	8,69E-10	4,10E-11	-1,05E-08
	IRP[2]	kgBq U235 -eq	2,85E+00	0	1,22E-03	7,24E-04	3,00E-05	-7,74E-03
	ETP-fw[1]	CTUe	1,04E+03	0	2,09E-01	2,84E+00	7,75E-03	-6,34E+00
	HTP-c[1]	CTUh	2,04E-08	0	0,00E+00	8,90E-11	0,00E+00	-8,80E-11
	HTP-nc[1]	CTUh	6,79E-07	0	2,77E-10	1,88E-09	1,50E-11	-2,90E-09
	SQP[1]	dimensionless	9,58E+02	0	2,40E-01	3,71E-02	1,04E-02	-1,05E+01

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	1,36E+01	8,25E-04	9,53E-02	1,05E-02	3,73E-04
	PERM	MJ	1,41E+00	0,00E+00	0,00E+00	0,00E+00	-1,41E+00
	PERT	MJ	1,50E+01	8,25E-04	9,53E-02	1,05E-02	-1,41E+00
	PENRE	MJ	1,19E+02	7,15E-02	9,38E-01	1,30E+00	2,26E-02
	PENRM	MJ	3,03E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
	PENRT	MJ	1,22E+02	7,15E-02	9,38E-01	1,30E+00	2,26E-02
	SM	kg	3,76E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00
	RSF	MJ	1,09E-01	1,70E-05	2,98E-05	2,88E-04	1,24E-05
	NRSF	MJ	2,43E-02	1,31E-04	4,62E-04	2,85E-03	5,09E-05
	FW	m^3	8,55E-02	8,44E-06	2,65E-04	8,22E-05	1,07E-05

Indicator		Unit	B6	C1	C2	C3	C4	D
	PERE	MJ	5,01E+02	0	4,02E-03	1,81E-02	1,34E-04	-2,92E+00
	PERM	MJ	0,00E+00	0	0,00E+00	0,00E+00	0,00E+00	0,00E+00
	PERT	MJ	5,01E+02	0	4,02E-03	1,81E-02	1,34E-04	-2,92E+00
	PENRE	MJ	5,83E+02	0	2,80E-01	2,33E-01	7,45E-03	-2,31E+00
	PENRM	MJ	0,00E+00	0	0,00E+00	-3,03E+00	0,00E+00	0,00E+00
	PENRT	MJ	5,83E+02	0	2,80E-01	-2,80E+00	7,45E-03	-2,31E+00
	SM	kg	0,00E+00	0	0,00E+00	0,00E+00	0,00E+00	0,00E+00
	RSF	MJ	1,88E+01	0	1,43E-04	4,54E-04	3,46E-06	-4,69E-02
	NRSF	MJ	9,96E-02	0	5,02E-04	0,00E+00	0,00E+00	-5,90E-04
	FW	m^3	1,86E+00	0	3,17E-05	3,25E-04	6,87E-06	-4,67E-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	6,16E-02	6,38E-06	7,51E-05	5,91E-05	0,00E+00
	NHWD	kg	1,53E+00	4,37E-03	1,86E-02	1,71E-02	1,00E-01
	RWD	kg	2,67E-04	4,69E-07	5,40E-07	8,99E-06	0,00E+00

Indicator		Unit	B6	C1	C2	C3	C4	D
	HWD	kg	7,71E-02	0	1,51E-05	0,00E+00	9,41E-02	-4,26E-04
	NHWD	kg	3,56E+00	0	1,74E-02	4,62E-01	1,56E-02	-1,38E-02
	RWD	kg	1,84E-03	0	1,90E-06	0,00E+00	1,77E-07	-2,06E-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	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	0,00E+00	0,00E+00	9,30E-02
	MER	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,99E-03
	EEE	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	5,72E-03
	EET	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	8,65E-02

Indicator		Unit	B6	C1	C2	C3	C4	D
	CRU	kg	0,00E+00	0	0,00E+00	0,00E+00	0,00E+00	0,00E+00
	MFR	kg	0,00E+00	0	0,00E+00	0,00E+00	0,00E+00	0,00E+00
	MER	kg	0,00E+00	0	0,00E+00	4,62E-01	0,00E+00	0,00E+00
	EEE	MJ	0,00E+00	0	0,00E+00	1,60E-04	0,00E+00	0,00E+00
	EET	MJ	0,00E+00	0	0,00E+00	2,42E-03	0,00E+00	0,00E+00

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	4,74E-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, China (kWh)	ecoinvent 3.6	1102,91	g CO2-eq/kWh

Dangerous substances

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

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	1,11E+01	4,76E-03	9,99E-02	9,86E-02	1,62E-03	

Indicator	**Unit**	B6	C1	C2	C3	C4	D
GWPIOBC	kg CO_2 -eq	6,29E+01	0	1,83E-02	5,83E-01	1,24E-03	-2,33E-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.

Variants and Options

Key environmental indicators (A1-A3) for variants of this EPD				
Variants	**Weight (kg)**	**GWPtotal (kg CO_2 -eq)**	**Total energy consumption (MJ)**	**Amount of recycled materials (%)**
Troldtekt UGR 60 cm (35 mm)	0,46	10,55	133,50	8,14
Troldtekt UGR 120 cm (25 mm)	0,84	20,87	256,92	8,98
Troldtekt UGR 120 cm (35 mm)	0,84	20,87	256,92	8,98

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