Environmental product declaration

in accordance with ISO 14025 and EN 15804+A2

LED Panel

Owner of the declaration:
Norlux AS

Product:
LED Panel

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:
EPD-Global

Declaration number:
NEPD-14297-14692

Issue date:
02.12.2025

Valid to:
02.12.2030

EPD software:
LCAno EPD generator ID: 1343676

EPD-Global

General information

Product

LED Panel

Owner of the declaration:

Norlux AS
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Program operator:

EPD-Global
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Manufacturer:

Norlux AS
Borgeskogen
32 3160 Stokke, Norway

Declaration number:

NEPD-14297-14692

Place of production:

Norlux - Production site (China)
Shenzhen, China

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-Global shall not be liable with respect to manufacturer information, life cycle assessment data and evidences.

Organisation no:

963116217

Declared unit:

1 pcs LED Panel

Issue date:

02.12.2025

Declared unit with option:

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

Valid to:

02.12.2030

Year of study:

2025

Functional unit:

LED Panel luminaire manufactured and installed, used according to a specific lighting regime over 15 years, including waste treatment at end-of-life

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-Global'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-Global, and iii) the process is reviewed annually by an independent third party verifier. See Appendix G of EPD-Global'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-Global. Approval number: NEPDT164

Developer of EPD: Jacob Flaatnes

Reviewer of company-specific input data and EPD: Mette Andersen

Verification of EPD tool:

Independent third party verification of the EPD tool, background data and test-EPD in accordance with EPD-Global'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-Global

Product

Product description:

LED - Panel is a light fixture for indoor use. It is designed for installation in a suspended ceiling, suspended using a wire system or with a mounting frame so that the panel can be mounted on ceiling surfaces. LED panel has either an opal diffuser or a microprismatic diffuser, depending on the application. The panels are available in several sizes and color temperatures. Select a variant below.

Product specification

IP rating

IP40

Vandal class

IK05

Lifetime [h]

L80B10: 100,000

Operating temperature [°C]

-10 - 40

Materials	kg	%
Electronics	0.29	13.30
Metal	0.82	37.61
Plastic	1.07	49.08
Total	2.18	100.00

Packaging	kg	%
Packaging	0.20	100.00
Total incl. packaging	2.38	100.00

Technical data:

Please visit the product page on our website for additional information, www.norlux.com

Market:

Norway

Reference service life, product

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

Reference service life, building or construction works

Reference service life of the building should be stated as 60 years, in line with the PCR Part A from EPD Norway.

LCA: Calculation rules

Declared unit:

1 pcs LED Panel

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
Electronics	Ecoinvent 3.6	Database + Supplier Information	2019
Electronics	Product composition + ecoinvent 3.6	Supplier data + database	2019
Electronics	Scholand et al. (2012) + Ecoinvent 3.6	Scientific literature + database	2017
Metal	ecoinvent 3.6	Database	2019
Metal	Modified ecoinvent 3.6	Database	2019
Packaging	ecoinvent 3.6	Database	2019
Plastic	ecoinvent 3.6	Database	2019
Plastic	Product composition + ecoinvent 3.6	Supplier data + 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:

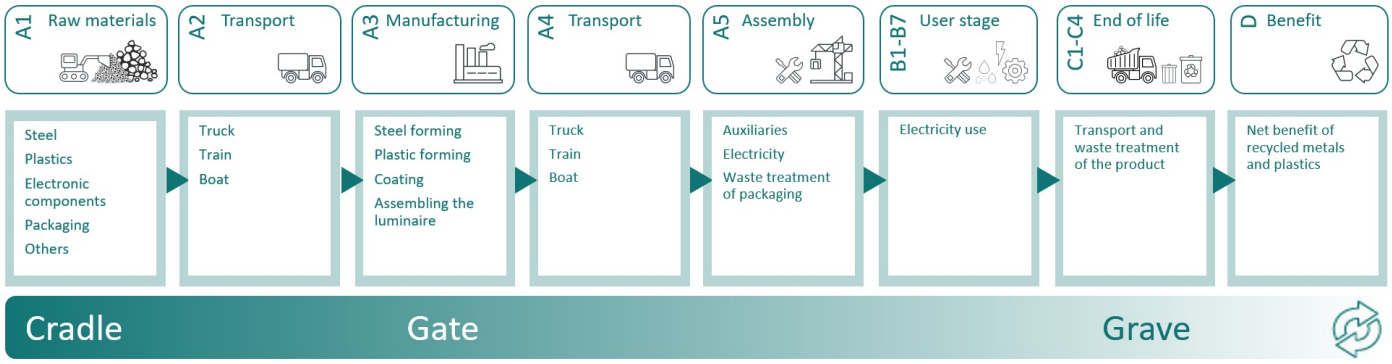
The analysis is a cradle-to-grave study of one luminaire manufactured and installed, used according to a specific lighting regime over a specific lifetime, including waste treatment at end-of-life.

A1-A5 includes the extraction and production of raw materials, transportation to the production site, the production process itself, transport to the market and assembly.

B6 is the operational energy use stage of the luminaire based on a scenario.

C1-C4 includes de-installation of the luminaire, average transport between building site and waste treatment facility, waste processing and disposal. Waste treatment of the product follows the default values provided in EN 50693.

D shows the recyclability of metals and plastics and 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.



Additional technical information:

LCA: Scenarios and additional technical information

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

Scenario = Office
Module A4 = Transportation to the production site is 40 km. Transportation from production facility to port is 40 km and 22 256 km on transoceanic ships as well as 30 km om truck from port to warehouse. Transportation to end-user is on average 260 km for the Norwegian market.
Module A5 = Installation is performed in the Norwegian Market and done by manual labor, with the use of electrical machines, that fall under the cut-off criteria of 1% and is therefore neglected. Packaging of the final product consists of a corrugated board box.
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. The energy consumption model for luminaire used in the PCR follows the application scenarios developed in EN 15193:2007. To calculate the electricity use of the luminaire, the following scenario parameters have been applied:
Active power of the luminaire (Pa) = 41 watt
Passive power of the luminaire (Pp) = 0,00 watt
Daylight time usage (tD) = 2250 hours
Non-daylight time usage (tN) = 250 hours
Standard year time (ty) = 8760 hours
The occupancy dependency factor (FO) = 1,00
The daylight dependency factor (FD) = 1,00
The product specific constant illuminance factor (FCP) = 1,00
The non-daylight dimming factor (FN) = 1,00
The application specific empiric lifetime of the luminaire in years (a) = 15 years (corresponding to the reference service life of the product)

Module C1 = Disassembly of the luminaire is done by manual labor, with the help of electrical machines. The use of portable electrical devices (e.g., drill) usually have low energy requirements, falling under the cut-off-criterion of 1% and is therefore neglected.
Module C2 = Average transport to EE recycling facility is 85 km.
Module 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 specifies 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 and without energy recovery and fly ash extraction. Disposal in C4 consists 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)
Ship, Freight, Transoceanic (km)	65.0 %	22256.00	0.003	l/tkm	66.77
Truck, 16-32 tonnes, EURO 5 (km) - World	38.8 %	40.00	0.045	l/tkm	1.80
Truck, 16-32 tonnes, EURO 6 (km) - Europe	36.7 %	330.00	0.043	l/tkm	14.19

Assembly (A5)	Unit	Value			
Waste, packaging, kraft paper, unbleached, to average treatment (kg) - A5, inkl. 85 km transp.	kg	0.20			

Operational energy (B6)	Unit	Value			
Electricity, Norway (kWh)	kWh	1537.50			

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 %	85.00	0.043	l/tkm	3.66

Waste processing (C3)	Unit	Value			
Aluminium to recycling (kg)	kg	0.56			
Steel to recycling (kg)	kg	0.016			
Waste treatment per kg used PWB, shredding and separation - C3 (kg)	kg	0.1302			
Waste treatment per kg electronics scrap from PWB, with components, recycling of metals C3 (kg)	kg	0.06512			
Waste treatment of polyvinylchloride (PVC), incineration with energy recovery and fly ash extraction (kg)	kg	0.0245			
Waste treatment per kg used electronic components, manual seperation (kg)	kg	0.27			
Copper to recycling (kg)	kg	0.0306			
Waste treatment of plastic mixture, incineration with energy recovery and fly ash extraction (kg)	kg	0.5649			

Disposal (C4)	Unit	Value			
Landfilling of aluminium (kg)	kg	0.24			
Landfilling of steel (kg)	kg	0.004			
Landfilling of hazardous waste (kg)	kg	0.06512			
Landfilling of plastic mixture (kg)	kg	0.5894			
Landfilling of copper (kg)	kg	0.0204			
Landfilling of ashes from incineration of Polyvinylchloride (PVC), process per kg ashes and residues (kg)	kg	0.003903			
Landfilling of ashes from incineration of Plastic mixture, process per kg ashes and residues (kg)	kg	0.01975			

Benefits and loads beyond the system boundaries (D)	Unit	Value			
Substitution of primary aluminium with net scrap (kg)	kg	0.56			
Substitution of primary steel with net scrap (kg)	kg	0.016			
Substitution of primary metals with net scrap from PWB, with components (kg)	kg	0.01915			
Substitution of primary copper with net scrap (kg)	kg	0.0306			
Substitution of thermal energy, district heating, in Norway (MJ)	MJ	13.68			
Substitution of electricity in Norway (MJ)	MJ	0.9044			

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	4.91E+01	4.14E-02	5.51E+00	6.44E-01	-3.22E-01
GWP-fossil	kg CO_2 -eq	4.93E+01	4.14E-02	5.51E+00	6.44E-01	5.38E-03
GWP-biogenic	kg CO_2 -eq	-2.33E-01	1.63E-05	8.27E-04	1.97E-04	-3.27E-01
GWP-luluc	kg CO_2 -eq	7.01E-02	1.49E-05	6.49E-04	3.96E-04	1.38E-06
ODP	kg CFC11 -eq	1.82E-06	9.06E-09	3.72E-08	1.39E-07	8.60E-10
AP	mol H+ -eq	3.47E-01	2.03E-04	2.91E-02	1.66E-02	4.33E-05
EP-FreshWater	kg P -eq	4.17E-03	3.89E-07	1.20E-04	3.24E-06	6.45E-08
EP-Marine	kg N -eq	5.35E-02	6.57E-05	5.94E-03	4.08E-03	1.86E-05
EP-Terrestial	mol N -eq	5.81E-01	7.25E-04	6.54E-02	4.54E-02	1.99E-04
POCP	kg NMVOC -eq	1.85E-01	2.13E-04	1.70E-02	1.19E-02	5.11E-05
ADP-minerals&metals[1]	kg Sb-eq	4.99E-03	1.07E-06	1.37E-05	7.69E-06	8.73E-08
ADP-fossil[1]	MJ	5.70E+02	6.15E-01	4.87E+01	8.56E+00	6.32E-02
WDP[1]	m^3	1.52E+03	2.04E-01	2.73E+00	3.23E+00	9.74E-02

Indicator	Unit	B6	C1	C2	C3	C4	D
GWP-total	kg CO_2 -eq	3.74E+01	0.00E+00	3.31E-02	1.46E+00	8.61E-02	-6.34E+00
GWP-fossil	kg CO_2 -eq	3.63E+01	0.00E+00	3.30E-02	1.46E+00	8.59E-02	-6.22E+00
GWP-biogenic	kg CO_2 -eq	1.00E+00	0.00E+00	1.37E-05	1.83E-04	1.86E-05	-2.64E-02
GWP-luluc	kg CO_2 -eq	1.50E-01	0.00E+00	1.18E-05	1.55E-04	1.26E-04	-9.89E-02
ODP	kg CFC11 -eq	2.49E-06	0.00E+00	7.49E-09	8.85E-09	3.67E-09	-5.78E-03
AP	mol H+ -eq	2.83E-01	0.00E+00	9.50E-05	6.04E-04	1.43E-04	-1.15E-01
EP-FreshWater	kg P -eq	2.61E-03	0.00E+00	2.64E-07	2.70E-06	7.62E-07	-6.58E-04
EP-Marine	kg N -eq	3.11E-02	0.00E+00	1.88E-05	1.98E-04	1.11E-04	-8.46E-03
EP-Terrestial	mol N -eq	4.05E-01	0.00E+00	2.10E-04	2.09E-03	4.50E-04	-1.05E-01
POCP	kg NMVOC -eq	1.09E-01	0.00E+00	8.05E-05	5.31E-04	1.71E-04	-3.23E-02
ADP-minerals&metals[1]	kg Sb-eq	2.70E-03	0.00E+00	9.13E-07	7.72E-07	1.57E-07	-1.70E-03
ADP-fossil[1]	MJ	4.95E+02	0.00E+00	5.00E-01	9.55E-01	3.82E-01	-7.93E+01
WDP[1]	m^3	1.93E+03	0.00E+00	4.83E-01	9.28E+00	3.62E+00	-2.89E+03

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"

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	3.15E-06	3.23E-09	3.92E-07	9.00E-09	5.29E-10
IRP[2]	kgBq U235 -eq	9.67E-01	2.56E-03	3.19E-02	3.68E-02	2.29E-04
ETP-fw[1]	CTUe	2.24E+03	4.98E-01	1.47E+02	5.34E+00	7.20E-02
HTP-c[1]	CTUh	4.51E-08	0.00E+00	1.34E-09	0.00E+00	8.00E-12
HTP-nc[1]	CTUh	1.62E-06	5.37E-10	6.06E-08	1.76E-09	3.84E-10
SQP[1]	dimensionless	1.18E+02	4.65E-01	1.03E+01	2.37E+00	3.55E-02

Indicator	Unit	B6	C1	C2	C3	C4	D
PM	Disease incidence	2.03E-06	0.00E+00	2.02E-09	3.42E-09	2.64E-09	-5.48E-07
IRP[2]	kgBq U235 -eq	8.98E+00	0.00E+00	2.18E-03	4.36E-03	1.50E-03	-3.36E-01
ETP-fw[1]	CTUe	2.25E+03	0.00E+00	3.70E-01	7.18E+00	1.64E+02	-6.80E+02
HTP-c[1]	CTUh	1.08E-07	0.00E+00	0.00E+00	1.19E-09	7.40E-11	-1.66E-08
HTP-nc[1]	CTUh	2.54E-06	0.00E+00	4.05E-10	6.91E-08	7.03E-10	-4.42E-07
SQP[1]	dimensionless	2.49E+02	0.00E+00	3.49E-01	2.29E-01	1.07E+00	-1.99E+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"

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	5.69E+01	6.98E-03	4.96E+00	7.34E-02	1.30E-03
	PERM	MJ	2.82E+00	0.00E+00	0.00E+00	0.00E+00	-2.82E+00
	PERT	MJ	5.97E+01	6.98E-03	4.96E+00	7.34E-02	-2.82E+00
	PENRE	MJ	5.37E+02	6.15E-01	4.87E+01	8.56E+00	6.32E-02
	PENRM	MJ	3.39E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	PENRT	MJ	5.71E+02	6.15E-01	4.87E+01	8.56E+00	6.32E-02
	SM	kg	3.47E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	RSF	MJ	3.97E-01	1.40E-04	1.47E-03	2.10E-03	3.79E-05
	NRSF	MJ	1.06E-01	1.13E-03	2.38E-02	1.86E-02	4.32E-04
	FW	m^3	3.59E-01	7.02E-05	1.37E-02	5.66E-04	4.60E-05

Indicator		Unit	B6	C1	C2	C3	C4	D
	PERE	MJ	6.41E+03	0.00E+00	7.15E-03	1.13E-01	7.27E-02	-3.15E+01
	PERM	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	PERT	MJ	6.41E+03	0.00E+00	7.15E-03	1.13E-01	7.27E-02	-3.15E+01
	PENRE	MJ	4.96E+02	0.00E+00	5.00E-01	9.56E-01	3.82E-01	-7.93E+01
	PENRM	MJ	0.00E+00	0.00E+00	0.00E+00	-3.39E+01	0.00E+00	0.00E+00
	PENRT	MJ	4.96E+02	0.00E+00	5.00E-01	-3.29E+01	3.82E-01	-7.93E+01
	SM	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.41E-03	2.14E-02
	RSF	MJ	5.03E+00	0.00E+00	2.56E-04	2.01E-03	5.10E-04	-7.91E-03
	NRSF	MJ	1.25E+01	0.00E+00	9.15E-04	-6.58E-05	1.25E-02	-3.59E-01
	FW	m^3	4.79E+01	0.00E+00	5.34E-05	3.57E-03	3.71E-04	-1.45E-01

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"

End of life - Waste

Indicator		Unit	A1	A2	A3	A4	A5
	HWD	kg	2.04E-01	5.49E-05	3.91E-03	3.93E-04	0.00E+00
	NHWD	kg	5.69E+00	3.32E-02	4.46E-01	1.21E-01	2.00E-01
	RWD	kg	8.35E-04	4.04E-06	2.81E-05	5.91E-05	0.00E+00

Indicator		Unit	B6	C1	C2	C3	C4	D
	HWD	kg	3.18E-01	0.00E+00	2.58E-05	3.25E-05	7.59E-02	1.61E-02
	NHWD	kg	3.81E+01	0.00E+00	2.43E-02	4.39E-02	8.62E-01	-1.69E+00
	RWD	kg	4.43E-03	0.00E+00	3.40E-06	1.61E-06	1.52E-06	-3.10E-04

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"

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	4.73E-06
	MER	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.00E-01
	EEE	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.39E-01
	EET	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.10E+00

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	6.07E-01	5.29E-05	-8.37E-04
	MER	kg	0.00E+00	0.00E+00	0.00E+00	5.89E-01	1.29E-06	-1.10E-04
	EEE	MJ	0.00E+00	0.00E+00	0.00E+00	8.93E-01	8.39E-05	-2.70E-04
	EET	MJ	0.00E+00	0.00E+00	0.00E+00	1.35E+01	1.27E-03	-4.09E-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"

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	9.26E-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	4.94E+01	4.14E-02	5.19E+00	6.44E-01	5.38E-03

Indicator	Unit	B6	C1	C2	C3	C4	D
GWPIOBC	kg CO_2 -eq	3.73E+01	0.00E+00	3.31E-02	1.46E+00	8.61E-02	-6.07E+00

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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