



Environmental product declaration

in accordance with ISO 14025 and EN 15804+A2

Stream Y 1200





The Norwegian EPD Foundation

Owner of the declaration:

Norlux AS

Product:

Stream Y 1200

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-12336-12392

Registration number:

NEPD-12336-12392

Issue date:

16.09.2025

Valid to:

16.09.2030

EPD software:

LCAno EPD generator ID: 1208190



General information

Product

Stream Y 1200

Program operator:

The Norwegian EPD Foundation
Post Box 5250 Majorstuen, 0303 Oslo, Norway

Phone: +47 977 22 020 web: www.epd-norge.no

Declaration number:

NEPD-12336-12392

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

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 Stream Y 1200

Declared unit with option:

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

Functional unit:

Stream Y 1200 luminaire manufactured and installed, used according to a specific lighting regime over 20 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: NEPDT41.

Third party verifier:

Vito D'Incognito, Take Care International

(no signature required)

Owner of the declaration:

Norlux AS

Contact person: Mette Andersen Phone: +47 902 24 135

e-mail: mette.andersen@norlux.com

Manufacturer:

Norlux AS Borgeskogen

32 3160 Stokke, Norway

Place of production:

Norlux - Production site (China)

Shenzhen, China

Management system:

Organisation no:

963116217

Issue date:

16.09.2025

Valid to:

16.09.2030

Year of study:

2025

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 EPD2021.09, developed by LCA.no. The EPD tool is integrated in the company's management system, and has been approved by EPD Norway. NEPDT164

Developer of EPD: Jacob Flaatnes

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

Approved:

Håkon Hauan, CEO EPD-Norge



Product

Product description:

Stream Y is an IP65 sealed industrial light fixture for ceiling or suspended mounting using wire (optional). The fixture has many applications such as parking garages, industry, and warehouses. The fixture has a through connection (5×2.5 mm2), this ensures efficient installation without tools.

Product specification

P rating

IP65

Vandal class

IK08

Material

Polycarbonate

Lifetime [h]

L80B10: 100,000

Operating temperature [°C]

-20 - 40

Materials	kg	%
Electronics	0,4595	24,59
Metal	0,5246	28,07
Plastic	0,8404	44,97
Rubber, synthetic	0,0058	0,3104
Silicone	0,0385	2,06
Total	1,87	100,00
De also vivo	len.	%
Packaging	kg	%
Packaging	0,22	100,00
Total incl. packaging	2,09	100,00

Technical data:

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

Market:

Norway

Reference service life, product

20 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 Stream Y 1200

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	2019
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
Packaging	Modified ecoinvent 3.6	Database	2019
Plastic	ecoinvent 3.6	Database	2019
Rubber, synthetic	ecoinvent 3.6	Database	2019
Silicone	ecoinvent 3.6	Database	2019



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

	P	roduct stag	je		uction ion stage				Use stage				End of life stage			Beyond the system boundaries	
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	naw 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	В3	B4	B5	В6	В7	C1	C2	C3	C4	D
	Χ	Х	Х	X	Χ	MND	MND	MND	MND	MND	X	MND	X	Х	Х	Χ	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 = Manufacturing

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) = 42 watt

Passive power of the luminaire (Pp) = 0,00 watt

Daylight time usage (tD) = 2500 hours

Non-daylight time usage (tN) = 1500 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) = 20 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.

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 %	30,00	0,043	l/tkm	1,29					
Truck, 16-32 tonnes, EURO 6 (km) - Europe	36,7 %	40,00	0,043	l/tkm	1,72					
Truck, 16-32 tonnes, EURO 6 (km) - Europe	36,7 %	260,00	0,043	l/tkm	11,18					
Assembly (A5)	Unit	Value								
Waste, packaging, corrugated board box, 0 % recycled, to average treatment (kg) - A5 including transport (kg)	kg	0,20								
Waste, packaging, plastic film (PET), to average treatment (kg)	kg	0,0125								
Waste, packaging, kraft paper, unbleached, to average treatment (kg) - A5, inkl. 85 km transp.	kg	0,0074								
Operational energy (B6)	Unit	Value								
Electricity, Norway (kWh)	kWh	3360,00								
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 %	85,00	0,044	l/tkm	3,74					



Waste processing (C3)	Unit	Value		
Steel to recycling (kg)	kg	0,4197		
Waste treatment of plastic mixture, incineration with energy recovery and fly ash extraction (kg)	kg	0,4665		
Waste treatment per kg used PWB, shredding and separation - C3 (kg)	kg	0,1819		
Waste treatment per kg electronics scrap from PWB, with components, recycling of metals C3 (kg)	kg	0,04633		
Waste treatment per kg used electronic components, manual seperation (kg)	kg	0,3666		
Waste treatment per kg electronics scrap from PWB, without components, recycling of copper - C3 (kg)	kg	0,03091		
Waste treatment of polyvinylchloride (PVC), incineration with energy recovery and fly ash extraction (kg)	kg	0,0562		
Copper to recycling (kg)	kg	0,0702		
Waste treatment per kg electronics scrap from LED plate, without components, recycling of copper - C3 (kg)	kg	0,0137		

Disposal (C4)	Unit	Value		
Landfilling of steel (kg)	kg	0,1049		
Landfilling of ashes from incineration of Plastic mixture, process per kg ashes and residues (kg)	kg	0,01631		
Landfilling of plastic mixture (kg)	kg	0,5227		
Landfilling of hazardous waste (kg)	kg	0,09094		
Landfilling of copper (kg)	kg	0,0468		
Landfilling of ashes from incineration of Polyvinylchloride (PVC), process per kg ashes and residues (kg)	kg	0,008954		

Benefits and loads beyond the system boundaries (D)	Unit	Value		
Substitution of primary steel with net scrap (kg)	kg	0,4197		
Substitution of thermal energy, district heating, in Norway (MJ)	МЈ	11,89		
Substitution of electricity in Norway (MJ)	MJ	0,786		
Substitution of primary metals with net scrap from PWB, with components (kg)	kg	0,01362		
Substitution of copper with net scrap from PWB, without components (kg)	kg	0,008744		
Substitution of primary copper with net scrap (kg)	kg	0,0702		



LCA: Results

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

Environme	ental impact								
	Indicator	_	Unit		A1	A2	A3	A4	A5
	GWP-total		kg CO ₂ - 6	eq	3.66E+01	1.49E-02	5.51E+00	5.65E-01	3.32E-01
•	GWP-fossil	GWP-fossil		kg CO ₂ -eq		1.49E-02	5.51E+00	5.65E-01	4.42E-03
•	GWP-biogenic	GWP-biogenic		kg CO ₂ -eq		5.38E-06	8.27E-04	1.73E-04	3.27E-01
	GWP-Iuluc		kg CO ₂ - 0	eq	4.71E-02	7.10E-06	6.49E-04	3.48E-04	1.20E-06
(3)	ODP		kg CFC11	-eq	2.12E-06	3.24E-09	3.72E-08	1.22E-07	7.74E-10
C.	AP		mol H+ -	eq	3.69E-01	2.22E-04	2.91E-02	1.46E-02	1.81E-05
	EP-FreshWater		kg P -ed	1	5.01E-03	1.15E-07	1.20E-04	2.85E-06	3.10E-08
	EP-Marine		kg N -ed	7	3.91E-02	6.04E-05	5.94E-03	3.58E-03	6.87E-06
	EP-Terrestial		mol N -e	eq	4.51E-01	6.71E-04	6.54E-02	3.98E-02	6.66E-05
	POCP		kg NMVOC	-eq	1.43E-01	1.80E-04	1.70E-02	1.04E-02	1.91E-05
	ADP-minerals&metals ¹		kg Sb-e	9	4.22E-03	2.85E-07	1.37E-05	6.75E-06	8.72E-08
	ADP-fossil ¹		MJ		4.42E+02	2.13E-01	4.87E+01	7.51E+00	5.17E-02
<u>%</u>	WDP ¹		m ³		7.005 . 00	C 2FF 02	2.73E+00	2.83E+00	7.54E-02
(%)	WDP.		m ³		7.60E+02	6.35E-02	2.73E+00	2.03E+00	7.54E-02
(%)	Indicator		Unit	В6	7.60E+02	6.35E-02	C3	2.83E+00	7.34E-02
				B6 8.18E+01					
	Indicator		Unit		C1	C2	C3	C4	D
	Indicator GWP-total		Unit kg CO ₂ -eq	8.18E+01	C1 0.00E+00	C2 2.96E-02	C3 1.30E+00	C4 8.36E-02	D -1.51E+00
	Indicator GWP-total GWP-fossil		Unit kg CO ₂ -eq kg CO ₂ -eq	8.18E+01 7.92E+01	C1 0.00E+00 0.00E+00	C2 2.96E-02 2.96E-02	C3 1.30E+00 1.29E+00	C4 8.36E-02 8.34E-02	D -1.51E+00 -1.51E+00
	Indicator GWP-total GWP-fossil GWP-biogenic		Unit kg CO ₂ -eq kg CO ₂ -eq kg CO ₂ -eq	8.18E+01 7.92E+01 2.19E+00	C1 0.00E+00 0.00E+00 0.00E+00	C2 2.96E-02 2.96E-02 1.21E-05	C3 1.30E+00 1.29E+00 2.39E-04	C4 8.36E-02 8.34E-02 2.34E-05	D -1.51E+00 -1.51E+00 -3.52E-03
	Indicator GWP-total GWP-fossil GWP-biogenic GWP-luluc		Unit kg CO ₂ -eq kg CO ₂ -eq kg CO ₂ -eq kg CO ₂ -eq	8.18E+01 7.92E+01 2.19E+00 3.27E-01	C1 0.00E+00 0.00E+00 0.00E+00 0.00E+00	C2 2.96E-02 2.96E-02 1.21E-05 1.03E-05	C3 1.30E+00 1.29E+00 2.39E-04 2.05E-04	C4 8.36E-02 8.34E-02 2.34E-05 1.74E-04	D -1.51E+00 -1.51E+00 -3.52E-03 -3.92E-03
	Indicator GWP-total GWP-fossil GWP-biogenic GWP-luluc ODP		Unit kg CO ₂ -eq kg CO ₂ -eq kg CO ₂ -eq kg CO ₂ -eq	8.18E+01 7.92E+01 2.19E+00 3.27E-01 5.43E-06	C1 0.00E+00 0.00E+00 0.00E+00 0.00E+00	C2 2.96E-02 2.96E-02 1.21E-05 1.03E-05 6.75E-09	C3 1.30E+00 1.29E+00 2.39E-04 2.05E-04 1.04E-08	C4 8.36E-02 8.34E-02 2.34E-05 1.74E-04 3.36E-09	D -1.51E+00 -1.51E+00 -3.52E-03 -3.92E-03 -5.02E-03
	Indicator GWP-total GWP-fossil GWP-biogenic GWP-luluc ODP AP		Wnit kg CO ₂ -eq kg CO ₂ -eq kg CO ₂ -eq kg CO ₂ -eq kg CFC11 -eq mol H+ -eq	8.18E+01 7.92E+01 2.19E+00 3.27E-01 5.43E-06 6.19E-01	C1 0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00	C2 2.96E-02 2.96E-02 1.21E-05 1.03E-05 6.75E-09 1.21E-04	C3 1.30E+00 1.29E+00 2.39E-04 2.05E-04 1.04E-08 6.33E-04	C4 8.36E-02 8.34E-02 2.34E-05 1.74E-04 3.36E-09 1.54E-04	D -1.51E+00 -1.51E+00 -3.52E-03 -3.92E-03 -5.02E-03 -8.46E-02
	Indicator GWP-total GWP-fossil GWP-biogenic GWP-luluc ODP AP EP-FreshWater		Wnit kg CO ₂ -eq kg CO ₂ -eq kg CO ₂ -eq kg CO ₂ -eq mol H+ -eq kg P -eq	8.18E+01 7.92E+01 2.19E+00 3.27E-01 5.43E-06 6.19E-01 5.70E-03	C1 0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00	C2 2.96E-02 2.96E-02 1.21E-05 1.03E-05 6.75E-09 1.21E-04 2.32E-07	C3 1.30E+00 1.29E+00 2.39E-04 2.05E-04 1.04E-08 6.33E-04 3.46E-06	C4 8.36E-02 8.34E-02 2.34E-05 1.74E-04 3.36E-09 1.54E-04 9.89E-07	D -1.51E+00 -1.51E+00 -3.52E-03 -3.92E-03 -5.02E-03 -8.46E-02 -5.30E-04
	Indicator GWP-total GWP-fossil GWP-biogenic GWP-luluc ODP AP EP-FreshWater EP-Marine		kg CO ₂ -eq kg CFC11 -eq mol H+ -eq kg P -eq kg N -eq	8.18E+01 7.92E+01 2.19E+00 3.27E-01 5.43E-06 6.19E-01 5.70E-03 6.80E-02	C1 0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00	C2 2.96E-02 2.96E-02 1.21E-05 1.03E-05 6.75E-09 1.21E-04 2.32E-07 3.59E-05	C3 1.30E+00 1.29E+00 2.39E-04 2.05E-04 1.04E-08 6.33E-04 3.46E-06 1.89E-04	C4 8.36E-02 8.34E-02 2.34E-05 1.74E-04 3.36E-09 1.54E-04 9.89E-07 1.03E-04	D -1.51E+00 -1.51E+00 -3.52E-03 -3.92E-03 -5.02E-03 -8.46E-02 -5.30E-04 -4.51E-03
	Indicator GWP-total GWP-fossil GWP-biogenic GWP-luluc ODP AP EP-FreshWater EP-Marine EP-Terrestial		kg CO ₂ -eq kg CO ₂ -eq kg CO ₂ -eq kg CO ₂ -eq kg CFC11 -eq mol H+ -eq kg P -eq kg N -eq mol N -eq	8.18E+01 7.92E+01 2.19E+00 3.27E-01 5.43E-06 6.19E-01 5.70E-03 6.80E-02 8.86E-01	C1 0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00	C2 2.96E-02 2.96E-02 1.21E-05 1.03E-05 6.75E-09 1.21E-04 2.32E-07 3.59E-05 3.97E-04	C3 1.30E+00 1.29E+00 2.39E-04 2.05E-04 1.04E-08 6.33E-04 3.46E-06 1.89E-04 2.01E-03	C4 8.36E-02 8.34E-02 2.34E-05 1.74E-04 3.36E-09 1.54E-04 9.89E-07 1.03E-04 4.45E-04	D -1.51E+00 -1.51E+00 -3.52E-03 -3.92E-03 -5.02E-03 -8.46E-02 -5.30E-04 -4.51E-03 -6.22E-02
	Indicator GWP-total GWP-fossil GWP-biogenic GWP-luluc ODP AP EP-FreshWater EP-Marine EP-Terrestial POCP		kg CO ₂ -eq kg CO ₂ -eq kg CO ₂ -eq kg CO ₂ -eq kg CFC11 -eq mol H+ -eq kg P -eq kg N -eq mol N -eq g NMVOC -eq	8.18E+01 7.92E+01 2.19E+00 3.27E-01 5.43E-06 6.19E-01 5.70E-03 6.80E-02 8.86E-01 2.38E-01	C1 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	C2 2.96E-02 1.21E-05 1.03E-05 6.75E-09 1.21E-04 2.32E-07 3.59E-05 3.97E-04 1.21E-04	C3 1.30E+00 1.29E+00 2.39E-04 2.05E-04 1.04E-08 6.33E-04 3.46E-06 1.89E-04 2.01E-03 5.16E-04	C4 8.36E-02 8.34E-02 2.34E-05 1.74E-04 3.36E-09 1.54E-04 9.89E-07 1.03E-04 4.45E-04 1.79E-04	D -1.51E+00 -1.51E+00 -3.52E-03 -3.92E-03 -5.02E-03 -8.46E-02 -5.30E-04 -4.51E-03 -6.22E-02 -1.83E-02

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

Remarks to environmental impacts

[&]quot;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



Additional er	Additional environmental impact indicators												
	Indicator	Unit		A1	A2	A3	A4	A5					
	PM	Disease incidence	Disease incidence		8.59E-10	3.92E-07	7.90E-09	2.68E-10					
()·1)	IRP ²	kgBq U235 -eq	gBq U235 -eq 1.20E+00			3.19E-02	3.23E-02	2.21E-04					
	ETP-fw ¹	CTUe		2.65E+03	1.58E-01	1.47E+02	4.69E+00	6.69E-02					
46.4	HTP-c ¹	CTUh		9.57E-08	0.00E+00	1.34E-09	0.00E+00	2.00E-12					
48° <u>B</u>	HTP-nc ¹	CTUh		2.96E-06	1.43E-10	6.06E-08	1.55E-09	9.40E-11					
	SQP ¹	dimensionless	dimensionless			1.03E+01	2.08E+00	3.88E-02					
li	ndicator	Unit	В6	C1	C2	C3	C4	D					
	PM	Disease incidence	4.44E-06	0.00E+00	2.13E-09	3.76E-09	2.82E-09	-2.35E-07					
	IRP ²	kgBq U235 -eq	1.96E+01	0.00E+00	1.95E-03	5.21E-03	1.30E-03	-4.51E-02					
	ETP-fw ¹	CTUe	4.93E+03	0.00E+00	3.29E-01	1.08E+01	9.47E+01	-6.82E+02					
40 x	HTP-c ¹	CTUh	2.35E-07	0.00E+00	0.00E+00	9.78E-10	9.30E-11	-8.20E-09					
48° <u>B</u>	HTP-nc ¹	CTUh	5.54E-06	0.00E+00	3.55E-10	5.76E-08	8.49E-10	-4.35E-07					
	SQP ¹	dimensionless	5.45E+02	0.00E+00	3.08E-01	2.54E-01	1.13E+00	-1.82E+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)

[&]quot;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	PERE		MJ		2.14E-03	4.96E+00	6.45E-02	8.96E-04
	PERM	PERM		МЛ		0.00E+00	0.00E+00	0.00E+00	-3.29E+00
T _s	PERT		N	۷J	5.17E+01	2.14E-03	4.96E+00	6.45E-02	-3.29E+00
	PENRE		N	۷J	4.16E+02	2.13E-01	4.87E+01	7.51E+00	5.17E-02
Å	PENRM		N	۷J	2.82E+01	0.00E+00	-2.05E-01	0.00E+00	-2.87E-01
IA	PENRT		N	۷J	4.45E+02	2.13E-01	4.85E+01	7.51E+00	-2.35E-01
	SM		k	κg	8.97E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2	RSF		N	۷J	3.84E-01	4.58E-05	1.47E-03	1.84E-03	2.88E-05
	NRSF		N	МЈ		4.20E-04	2.38E-02	1.63E-02	1.25E-04
(%)	FW		m ³		3.33E-01	2.08E-05	1.37E-02	4.97E-04	2.52E-05
	ndicator	-	Unit	В6	C1	C2	C3	C4	D
÷Ę	PERE		MJ	1.40E+04	0.00E+00	6.30E-03	1.45E-01	8.87E-02	-8.07E+00
	PERM		MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
° ∓3	PERT		MJ	1.40E+04	0.00E+00	6.30E-03	1.45E-01	8.87E-02	-8.07E+00
	PENRE		MJ	1.08E+03	0.00E+00	4.46E-01	1.12E+00	3.97E-01	-1.69E+01
Å	PENRM		MJ	0.00E+00	0.00E+00	0.00E+00	-2.77E+01	0.00E+00	0.00E+00
I	PENRT		MJ	1.08E+03	0.00E+00	4.46E-01	-2.66E+01	3.97E-01	-1.69E+01
	SM		kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.96E-03	4.91E-02
2	RSF		MJ	1.10E+01	0.00E+00	2.25E-04	2.57E-03	4.49E-04	2.03E-02
	NRSF		MJ	2.74E+01	0.00E+00	8.05E-04	-5.09E-05	1.74E-02	1.35E-01
8	FW		m^3	1.05E+02	0.00E+00	4.70E-05	5.41E-03	3.42E-04	-2.05E-02

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; 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										
		U	nit	A1	A2	A3	A4	A5		
	HWD	HWD		g	1.77E-01	1.59E-05	3.91E-03	3.45E-04	0.00E+00	
	NHWD	NHWD		g	7.12E+00	9.17E-03	4.46E-01	1.06E-01	2.20E-01	
₩	RWD		kg		9.44E-04	1.42E-06	2.81E-05	5.19E-05	0.00E+00	
In	dicator		Unit	В6	C1	C2	C3	C4	D	
Ā	HWD		kg	6.95E-01	0.00E+00	2.28E-05	2.57E-05	9.79E-02	-7.45E-03	
Ū	NHWD	NHWD		8.33E+01	0.00E+00	2.13E-02	3.58E-02	6.86E-01	-4.36E-01	
ઐ	RWD		kg	9.69E-03	0.00E+00	3.04E-06	1.35E-06	1.18E-06	-3.89E-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	nd of life - Output flow												
Ind	icator		Unit			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	1.92E-01				
DF	MER		kg		0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.40E-03				
50	EEE		МЈ		0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.66E-02				
DB	EET		МЈ		0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.51E-01				
Indicato	r	Unit		В6	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	4.90E-01	4.69E-05	-1.92E-03				
D₽	MER	kg		0.00E+00	0.00E+00	0.00E+00	5.23E-01	1.15E-06	-2.53E-04				
50	EEE	MJ		0.00E+00	0.00E+00	0.00E+00	7.74E-01	7.44E-05	-6.20E-04				
D	EET	MJ		0.00E+00	0.00E+00	0.00E+00	1.17E+01	1.13E-03	-9.37E-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	0.00E+00		
Biogenic carbon content in accompanying packaging	kg C	9.60E-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-eg/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		3.69E+01	1.49E-02	5.19E+00	5.65E-01	4.43E-03
Indicator	Unit	В6	C1	C2	C3	C4	D
GWPIOBC	kg CO ₂ -eq	8.16E+01	0.00E+00	2.96E-02	1.30E+00	8.37E-02	-1.42E+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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and norge	Program operator and publisher	Phone:	+47 977 22 020
@ epd-norge	The Norwegian EPD Foundation	e-mail:	post@epd-norge.no
Global program operatør	Post Box 5250 Majorstuen, 0303 Oslo, Norway	web:	www.epd-norge.no
NODLIIV	Owner of the declaration:	Phone:	+47 902 24 135
(NORLUX [*])	Norlux AS	e-mail:	mette.andersen@norlux.com
Lighting Solutions	Borgeskogen, 32 3160 Stokke, Norway	web:	https://norlux.com/
	Author of the Life Cycle Assessment	Phone:	+47 916 50 916
(LCA\	LCA.no AS	e-mail:	post@lca.no
.no	Dokka 6A, 1671 Kråkerøy, Norway	web:	www.lca.no
	Developer of EPD generator	Phone:	+47 916 50 916
(LCA\	LCA.no AS	e-mail:	post@lca.no
.no	Dokka 6A, 1671 Kråkerøy, Norway	web:	www.lca.no
ECO PLATFORM	ECO Platform	web:	www.eco-platform.org
VERIFIED	ECO Portal	web:	ECO Portal