

# Environmental product declaration

In accordance with 14025 and EN15804+A2

## NorDan Bor Ytterdörr 838G Linjalen



The Norwegian EPD Foundation

**Owner of the declaration:**

NorDan AS

**Product:**

NorDan Bor Ytterdörr 838G Linjalen

**Declared unit:**

1 pcs

**This declaration is based on Product Category Rules:**

CEN Standard EN 15804:2012+A2:2019 serves as core PCR

NCPR 014:2019 Part B for Windows and doors

**Program operator:**

The Norwegian EPD Foundation

**Declaration number:**

NEPD-4181-3405-EN

**Registration number:**

NEPD-4181-3405-EN

**Issue date:** 08.02.2023

**Valid to:** 08.02.2028

**EPD Software:**

LCA.no EPD generator ID: 56402

## General information

### Product

NorDan Bor Ytterdörr 838G Linjalen

### Program operator:

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

### Declaration number:

NEPD-4181-3405-EN

### This declaration is based on Product Category Rules:

CEN Standard EN 15804:2012+A2:2019 serves as core PCR  
NCPR 014:2019 Part B for Windows and doors

### 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 NorDan Bor Ytterdörr 838G Linjalen

### Declared unit with option:

A1-A3,A4,A5,B2,B4,C1,C2,C3,C4,D

### Functional unit:

One external doorset measuring 1230x2180 mm (reference based on EN 14351-1). With expected service life of 30 yrs.

### 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. Individual third party verification of each EPD is not required when the EPD tool is i) integrated into the company's environmental management system, ii) the procedures for use of the EPD tool are approved by EPDNorway, and iii) the process is reviewed annually. 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.

Third party verifier:

Gaylord K. Booto, NILU  
(no signature required)

### Owner of the declaration:

NorDan AS  
Contact person: Fredrik Jonsson  
Phone: +46 (0 10-130 01 78  
e-mail: [fredrik.jonsson@nordan.se](mailto:fredrik.jonsson@nordan.se)

### Manufacturer:

NorDan AB  
Grebbebadsvägen 8  
457 91 Tanumshede, Sweden

### Place of production:

Bor NorDan AB  
Kvadervägen  
331 74 Bor, Sweden

### Management system:

NS-ISO 9001:2015, NS-EN ISO 14001:2015

### Organisation no:

979 776 233

### Issue date:

08.02.2023

### Valid to:

08.02.2028

### Year of study:

2020

### Comparability:

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

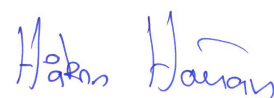
### Development and verification of EPD:

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: Linda Jonsson

Reviewer of company-specific input data and EPD: Fredrik Jonsson

### Approved:



Håkon Hauan, CEO EPD-Norge

## Product

### Product description:

External door for use in exterior walls of domestic and commercial buildings.

### Product specification

Product NorDan Bor 838G Linjalen in size 1230x2180 mm is covered in this EPD.

Triple glazed unit 4# + 16G + 4 + 14G + #4

Materials	kg	%
Absorbent - IGU	0,32	0,46
Adhesive and sealant	0,38	0,53
Aluminium	1,21	1,71
Argon gas - IGU	0,01	0,02
Coating materials	1,24	1,75
Gasket	0,39	0,54
Glass	7,26	10,24
Insulation	1,68	2,37
Medium Density Fibreboard	16,11	22,74
Metal	12,91	18,22
Plastic	0,13	0,19
Sealant - IGU	0,74	1,04
Spacer - IGU	0,34	0,48
Wood	28,15	39,72
<b>Total</b>	<b>70,87</b>	

Packaging	kg	%
Packaging - Cardboard	5,17	53,84
Packaging - Plastic	0,17	1,78
Packaging - Steel	0,06	0,66
Packaging - Wood	4,20	43,73
<b>Total incl. packaging</b>	<b>80,47</b>	

### Technical data:

External door. Triple glazed, 105 mm frame with 69 mm doorleaf. U-value 1,1 W/m<sup>2</sup>K

The total weight of the product is 70.87 kg. The packaging has a average weight of 9,6 kg.

Area of functional unit 2,68 m<sup>2</sup>. Conversion factor is 0,373 for 1 m<sup>2</sup>.

### Market:

Europe, but scenarios beyond cradle-to-gate are based on the situation in the Norwegian market.

### Reference service life, product

The reference service life is 30 years for doorset.

### Reference service life, building or construction works

60 years.

## LCA: Calculation rules

### Declared unit:

1 pcs NorDan Bor Ytterdörr 838G Linjalen

### 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. 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. The PCR specific background data follow the allocation rules in the Ecoinvent v3.7.1 Cut-off database version. The allocation of water, energy and waste flows within the production facilities for windows and doors follows unit-based allocation adjusted with a point system to different product groups or products. This score system is regulated by a factor which increases with the resource intensity of each product. The unit-based allocation is adjusted by the weight of the product, excluding the weight of glass.

### 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.

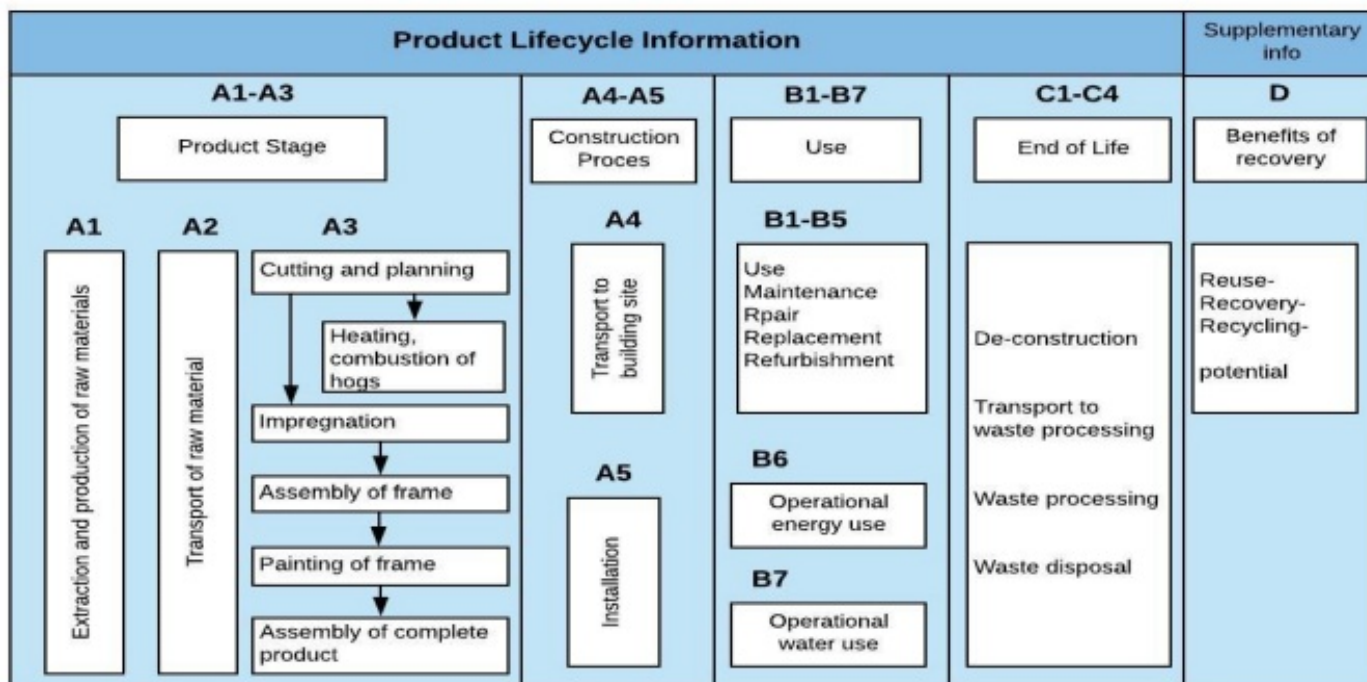
The production data was collected in 2021 and is an average for 2020.

Materials	Source	Data quality	Year
Packaging - Cardboard	ecoinvent 3.6	Database	2019
Packaging - Plastic	ecoinvent 3.6	Database	2019
Packaging - Steel	ecoinvent 3.6	Database	2019
Packaging - Wood	ecoinvent 3.6	Database	2019
Argon gas - IGU	ecoinvent 3.7.1	Database	2020
Glass	ecoinvent 3.7.1	Database	2020
Absorbent - IGU	ecoinvent 3.7.1	Specific	2020
Adhesive and sealant	ecoinvent 3.7.1	Specific	2020
Aluminium	ecoinvent 3.7.1	Specific	2020
Coating materials	ecoinvent 3.7.1	Specific	2020
Gasket	ecoinvent 3.7.1	Specific	2020
Glass	ecoinvent 3.7.1	Specific	2020
Insulation	ecoinvent 3.7.1	Specific	2020
Medium Density Fibreboard	ecoinvent 3.7.1	Specific	2020
Metal	ecoinvent 3.7.1	Specific	2020
Plastic	ecoinvent 3.7.1	Specific	2020
Sealant - IGU	ecoinvent 3.7.1	Specific	2020
Spacer - IGU	ecoinvent 3.7.1	Specific	2020
Wood	ecoinvent 3.7.1	Specific	2020

### 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	X	MND	X	MND	MND	MND	X	X	X	X	X

### System boundary:



### Additional technical information:

For the products with different sizes from the declared unit, the environmental impacts must be converted by using a conversion factor. The Norwegian EPD Foundation has published instructions on how to interpret EPDs for windows on its website ([www.epdnorge.no](http://www.epdnorge.no)) where different calculation methods have been stated. (Document: Bruksanvisninger i hvordan tolke EPD'er - Vinduer).

## LCA: Scenarios and additional technical information

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

### A4

The transportation from production to construction site is based on a scenario where the product is transported from factory to terminal is assumed to be 75 km on a medium truck. Transport from terminal to warehouse in Oslo, Norway on a large lorry (439 km). Transport from warehouse to a construction site is assumed to be 50 km on a medium truck.

### A5

According to the report from EPD-Norge Harmonising the documentation of scenarios beyond cradle to gate, EN 15804 there is no loss on site during construction activities. The door product in this EPD is painted and surface treated in the production and not at the building site. Therefore, there is only 2 items left in this module. 1) Waste treatment of packaging which is considered in the EPD calculations. 1) Energy use during installation. This can be varied depending on the floor, type of building and several other unknown parameters, and therefore ignored in the calculation.

### B2/B3

The maintenance scenario includes cleaning and painting. Cleaning is performed two times per year. It is calculated with 30 ml of detergent and 3 liters of water each year. Doors are assumed to be painted 1 time during its lifetime from inside and 2 times from the outside. It is assumed that 5 gr of lubricating oil is used every year for fittings and moving parts. No repair is assumed during the product lifetime.

### B4/B5

\* Number or RSL (Reference Service Life). The doorset has RSL of 30 years. Therefore, it is assumed to replace the insulated glass unit after 30 years (See Module B4). Door with 30 years RSL is assumed to have one entire door replacement during the lifetime of the building. It is assumed that this change is occurred after 30 years when the IGU reaches its end of life. There is no need for refurbishment during the product lifetime.

### C1

As there are no data for de-construction, it is assumed no activities in C1 in this study. The door is assumed to be treated as mixed waste and sent to incineration. The combustible materials are then energy recovered, while glass is assumed to end up in the bottom ash and then landfilled. The metals are usually sorted out of the bottom ash and then recycled, but there is no data of the share which are recycled and therefore standard values from Ecoinvent is utilized.

### C2

The transport of the doorset as waste is calculated based on a scenario with 50 km distance.

### C3

Doors are assumed to be sorted as mixed construction waste and treated with incineration with energy recovery. However, the manufacturer has documented the recycling potentials for its product in the Construction Product Declaration eBVD NorDan Bor 838G 10x21 Standard, ID: C-SE556294452901-60

URL: <https://ivl-ebvd.azurewebsites.net/BMI/Document/Export/2785/0/Pdf>

In the documentation, Chapter 10, the specific material recovery, and energy recovery potential is reported for the product.

### C1, C3, C4

The benefits beyond life cycle have been modelled based on the output flows from module C3. This includes energy from incineration and scrap metal recovered from the ashes. The amount recovered metal is assumed to avoid production of primary metals in accordance to 6.4.3.3 in EN 15804. The exported energy is substituting Norwegian district heating mix and electricity mix. Inventory processes causing substitution of avoided virgin raw materials has been constructed for each material.

Transport from production place to user (A4)	Capacity utilisation (incl. return) %	Distance (km)	Fuel/Energy Consumption	Unit	Value (Liter/tonne)
Truck, 16-32 tonnes, EURO 6 (kgkm) - RER	36,7 %	125	0,043	l/tkm	5,38
Truck, over 32 tonnes, EURO 6 (kgkm) - RER	53,3 %	439	0,023	l/tkm	10,10
Assembly (A5)		Unit	Value		
Waste, metal, average treatment (kg)	kg	0,06			
Waste, packaging, folding boxboard, to average treatment (kg)	kg	5,17			
Waste, packaging, pallet, EUR wooden pallet, reusable, average treatment (kg) A5	kg	4,20			
Waste, packaging, PET straps, 0% recycled, to average treatment (kg)	kg	0,07			
Waste, packaging, plastic film (LDPE), to average treatment (kg)	kg	0,10			

Maintenance (B2)	Unit	Value		
Detergent, Husvask (kg)	kg/DU	1,84		
Lubricating oil (kg) - RER	kg/DU	0,30		
Paint, 40% water, wet mass (kg)	kg/DU	2,21		
Truck, over 32 tonnes, EURO 5 (kgkm) - RER	kgkm/DU	1304,00		
Waste paint, 40% water, wet mass, incineration in Norway (kg)	kg	2,21		
Water, tap water (kg) - Europe without Switzerland	kg/DU	180,00		

Replacement (B4)	Unit	Value		
Replacement (p)	Units/DU	1,00		

Transport to waste processing (C2)	Capacity utilisation (incl. return) %	Distance (km)	Fuel/Energy Consumption	Unit	Value (Liter/tonne)
Truck, unspecified (kgkm) - RER	48,7 %	50	0,051	l/tkm	2,55

Waste processing (C3)	Unit	Value		
Materials to recycling (kg)	kg	4,32		
Waste treatment per kg Expanded Polystyrene (EPS), incineration (kg)	kg	1,68		
Waste treatment per kg Glass, incineration with fly ash extraction (kg) - CH - C3	kg	7,27		
Waste treatment per kg Hazardous waste, incineration (kg)	kg	0,01		
Waste treatment per kg Paint, hazardous waste incineration (kg) - C3	kg	1,23		
Waste treatment per kg Plastic, Mixture, municipal incineration with fly ash extraction (kg)	kg	0,39		
Waste treatment per kg Polyurethane (PU), incineration (kg)	kg	3,01		
Waste treatment per kg Rubber, municipal incineration with fly ash extraction (kg)	kg	0,39		
Waste treatment per kg Scrap aluminium, incineration with fly ash extraction (kg) - CH - C3	kg	2,21		
Waste treatment per kg Scrap steel, incineration with fly ash extraction (kg) - CH - C3	kg	12,06		
Waste treatment per kg Wood, from incineration (kg)	kg	47,52		

Disposal (C4)	Unit	Value		
Landfilling of ashes from incineration of expanded polystyrene (EPS), process per kg ashes and residues - C4 (kg)	kg	0,06		
Landfilling of ashes from incineration of Glass, process of ashes and residues (kg) - CH - C4	kg	7,27		
Landfilling of ashes from incineration of Hazardous waste, from incineration (kg)	kg	0,00		
Landfilling of ashes from incineration of Plastics, Mixture, municipal incineration with fly ash extraction, process per kg ashes and residues (kg)	kg	0,01		
Landfilling of ashes from incineration of Polyurethane (PU), process per kg ashes and residues - C4 (kg)	kg	0,11		
Landfilling of ashes from incineration of Rubber, process per kg ashes and residues - C4 (kg)	kg	0,02		
Landfilling of ashes from incineration of Scrap aluminium, process of ashes and residues (kg) - CH - C4	kg	1,98		
Landfilling of ashes from incineration of Scrap steel, process of ashes and residues (kg) - CH - C4	kg	7,97		
Landfilling of ashes from incineration of Wood, process per kg ashes and residues - C4 (kg)	kg	0,55		
Landfilling of ashes from incineration per kg Paint, hazardous waste incineration (kg)	kg	0,04		

Benefits and loads beyond the system boundaries (D)	Unit	Value		
Substitution of electricity, in Norway (MJ)	MJ	41,47		
Substitution of primary aluminium with net scrap (kg)	kg	0,09		
Substitution of primary steel with net scrap (kg)	kg	0,57		
Substitution of thermal energy, district heating, in Norway (MJ)	MJ	627,45		

## LCA: Results

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

Environmental impact												
Indicator	Unit	A1-A3	A4	A5	B2	B4	C1	C2	C3	C4	D	
 GWP-total	kg CO <sub>2</sub> -eq	5,54E+01	4,72E+00	1,53E+01	1,27E+01	7,54E+01	0	5,30E-01	9,24E+01	2,35E-01	-5,25E+00	
 GWP-fossil	kg CO <sub>2</sub> -eq	1,41E+02	4,72E+00	2,11E-01	1,10E+01	1,46E+02	0	5,29E-01	2,03E+01	2,35E-01	-5,10E+00	
 GWP-biogenic	kg CO <sub>2</sub> -eq	-8,63E+01	2,00E-03	1,51E+01	2,87E-02	-7,12E+01	0	2,27E-04	7,22E+01	1,66E-04	-1,17E-02	
 GWP-luluc	kg CO <sub>2</sub> -eq	1,13E+00	1,52E-03	5,80E-05	1,61E+00	1,13E+00	0	1,87E-04	5,57E-04	6,42E-05	-1,41E-01	
 ODP	kg CFC11-eq	1,60E-05	1,11E-06	3,67E-08	9,46E-07	1,72E-05	0	1,21E-07	3,48E-07	6,36E-08	-2,65E-01	
 AP	mol H <sup>+</sup> -eq	9,64E-01	1,46E-02	1,33E-03	9,46E-02	9,80E-01	0	3,02E-03	1,96E-02	1,50E-03	-3,87E-02	
 EP-FreshWater	kg P -eq	7,13E-03	3,76E-05	2,08E-06	5,38E-04	7,17E-03	0	4,36E-06	2,25E-05	2,49E-06	-3,94E-04	
 EP-Marine	kg N -eq	2,10E-01	3,10E-03	5,37E-04	1,23E-02	2,14E-01	0	1,08E-03	8,85E-03	5,29E-04	-1,12E-02	
 EP-Terrestrial	mol N -eq	2,35E+00	3,46E-02	5,67E-03	8,63E-02	2,39E+00	0	1,19E-02	9,05E-02	5,86E-03	-1,20E-01	
 POCP	kg NMVOC-eq	7,25E-01	1,35E-02	1,50E-03	4,00E-02	7,40E-01	0	3,40E-03	2,28E-02	1,68E-03	-3,50E-02	
 ADP-minerals&metals <sup>1</sup>	kg Sb -eq	4,21E-03	1,00E-04	3,96E-06	1,06E-04	4,32E-03	0	1,37E-05	8,27E-06	3,54E-06	-4,57E-05	
 ADP-fossil <sup>1</sup>	MJ	2,57E+03	7,48E+01	2,57E+00	1,48E+02	2,64E+03	0	8,13E+00	2,46E+01	4,76E+00	-6,79E+01	
 WDP <sup>1</sup>	m <sup>3</sup>	6,04E+04	6,23E+01	3,74E+00	5,03E+01	6,04E+04	0	7,70E+00	9,31E+01	1,28E+01	-1,09E+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 change; ODP Ozone Depletion; AP Acidification; EP freshwater Eutrophication aquatic freshwater; EP marine Eutrophication aquatic marine; EP terrestrial Eutrophication terrestrial ;POCP Photochemical zone formation; ADPE Abiotic Depletion Potential minerals and metals; ADPf Abiotic Depletion Potential fossil fuels;

"Reading example: 9,0 E-03 = 9,0\*10<sup>-3</sup> = 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

Global warming potential in A1-A3 includes sequestration of carbon in the wood. This amount is accounted as an emission in module C3. Additionally, it is included sequestration in the wood packaging. This is accounted as an emission in module A5.



Additional environmental impact indicators												
Indicator	Unit	A1-A3	A4	A5	B2	B4	C1	C2	C3	C4	D	
 PM	Disease incidence	1,86E-05	3,83E-07	1,73E-08	4,72E-07	1,90E-05	0	4,83E-08	2,23E-07	2,66E-08	-1,93E-06	
 IRP <sup>2</sup>	kgBq U235 -eq	2,58E+01	3,27E-01	1,01E-02	3,78E-01	2,61E+01	0	3,55E-02	9,04E-02	1,94E-02	-3,76E-01	
 ETP-fw <sup>1</sup>	CTUe	5,88E+03	5,50E+01	3,14E+00	2,16E+02	5,94E+03	0	6,08E+00	6,86E+01	3,31E+00	-3,30E+02	
 HTP-c <sup>1</sup>	CTUh	7,02E-07	0,00E+00	2,17E-10	1,78E-08	7,02E-07	0	0,00E+00	1,18E-08	1,25E-10	-1,03E-08	
 HTP-nc <sup>1</sup>	CTUh	3,86E-06	5,54E-08	1,01E-08	1,81E-07	3,92E-06	0	8,05E-09	1,37E-07	3,81E-09	-2,30E-07	
 SQP <sup>1</sup>	dimensionless	1,47E+04	7,47E+01	1,64E+00	1,31E+02	1,47E+04	0	6,96E+00	9,24E+00	1,08E+01	-3,48E+02	

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 Soil Quality (dimensionless)

"Reading example: 9,0 E-03 = 9,0\*10<sup>-3</sup> = 0,009"

\*INA Indicator Not Assessed




1. The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator
2. This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator.

Resource use												
Indicator	Unit	A1-A3	A4	A5	B2	B4	C1	C2	C3	C4	D	
 PERE	MJ	1,31E+03	9,84E-01	4,82E-02	2,37E+01	1,31E+03	0	1,17E-01	3,73E+00	1,04E-01	-3,26E+02	
 PERM	MJ	9,63E+02	0,00E+00	-2,00E+02	0,00E+00	7,63E+02	0	0,00E+00	-7,53E+02	0,00E+00	0,00E+00	
 PERT	MJ	2,27E+03	9,84E-01	-2,00E+02	2,37E+01	2,07E+03	0	1,17E-01	-7,50E+02	1,04E-01	-3,26E+02	
 PENRE	MJ	2,38E+03	7,48E+01	2,57E+00	1,51E+02	2,46E+03	0	8,13E+00	2,46E+01	4,76E+00	-6,79E+01	
 PENRM	MJ	1,89E+02	0,00E+00	-5,88E+00	0,00E+00	1,83E+02	0	0,00E+00	-1,82E+02	0,00E+00	0,00E+00	
 PENRT	MJ	2,57E+03	7,48E+01	-3,31E+00	1,51E+02	2,64E+03	0	8,13E+00	-1,57E+02	4,76E+00	-2,93E+02	
 SM	kg	5,83E-01	0,00E+00	0,00E+00	0,00E+00	5,83E-01	0	0,00E+00	2,22E-05	1,12E-04	4,06E-01	
 RSF	MJ	3,10E+00	3,47E-02	1,48E-03	3,44E-02	3,14E+00	0	4,15E-03	7,80E-02	2,72E-03	-3,52E-02	
 NRSF	MJ	3,94E+00	1,19E-01	1,18E-02	1,47E-02	4,07E+00	0	1,46E-02	-1,43E-01	2,87E-01	-1,84E+01	
 FW	m <sup>3</sup>	2,91E+00	8,34E-03	1,55E-03	3,41E-01	2,92E+00	0	9,20E-04	2,92E-02	4,30E-03	-4,09E-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 Use of net fresh water

\*Reading example: 9,0 E-03 = 9,0\*10<sup>-3</sup> = 0,009"






\*INA Indicator Not Assessed

End of life - Waste												
Indicator	Unit	A1-A3	A4	A5	B2	B4	C1	C2	C3	C4	D	
	HWD	kg	1,86E+00	4,02E-03	4,85E-02	7,55E-02	1,91E+00	0	4,38E-04	3,41E-02	1,78E+01	-2,18E-03
	NHWD	kg	3,99E+01	5,55E+00	2,14E-01	3,48E+00	4,56E+01	0	5,04E-01	2,42E-01	4,93E-01	-1,73E+00
	RWD	kg	1,51E-02	5,10E-04	1,54E-05	4,26E-04	1,56E-02	0	5,53E-05	1,31E-04	2,93E-05	-3,14E-04

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

\*Reading example: 9,0 E-03 =  $9,0 \cdot 10^{-3} = 0,009$

\*INA Indicator Not Assessed

End of life - Output flow												
Indicator	Unit	A1-A3	A4	A5	B2	B4	C1	C2	C3	C4	D	
	CRU	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0	0,00E+00	0,00E+00	0,00E+00	0,00E+00
	MFR	kg	3,37E+00	0,00E+00	6,48E+00	0,00E+00	9,85E+00	0	0,00E+00	4,36E+00	6,38E+00	3,96E-01
	MER	kg	1,30E-02	0,00E+00	1,49E-05	0,00E+00	1,30E-02	0	0,00E+00	6,53E-04	2,85E-05	1,67E-04
	EEE	MJ	2,64E+00	0,00E+00	2,12E+00	1,30E+00	4,75E+00	0	0,00E+00	4,15E+01	2,27E-04	5,85E-03
	EET	MJ	3,37E+01	0,00E+00	3,20E+01	9,05E+00	6,58E+01	0	0,00E+00	6,27E+02	3,88E-03	8,85E-02

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

\*Reading example: 9,0 E-03 =  $9,0 \cdot 10^{-3} = 0,009$

\*INA Indicator Not Assessed

Biogenic Carbon Content		
Indicator	Unit	At the factory gate
Biogenic carbon content in product	kg C	1,96E+01
Biogenic carbon content in accompanying packaging	kg C	4,31E+00

Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO<sub>2</sub>

## Additional Norwegian 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, Poland (kWh)	ecoinvent 3.6	1060,47	g CO2-eq/kWh
Electricity, Sweden (kWh)	ecoinvent 3.6	54,94	g CO2-eq/kWh

### Dangerous substances

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

### Indoor environment

The product has not been tested for emissions to indoor environments.

## Additional Environmental Information






Environmental impact indicators EN 15804+A1 and NPCR Part A v2.0											
Indicator	Unit	A1-A3	A4	A5	B2	B4	C1	C2	C3	C4	D
GWP	kg CO <sub>2</sub> -eq	3,00E+01	4,67E+00	2,07E-01	1,23E+01	3,49E+01	0	5,24E-01	1,58E+02	4,21E-02	-5,12E+00
ODP	kg CFC11 -eq	6,67E-06	9,02E-07	2,98E-08	8,06E-07	7,60E-06	0	9,66E-08	8,68E-08	3,50E-09	-4,69E-07
POCP	kg C <sub>2</sub> H <sub>4</sub> -eq	1,65E-02	5,75E-04	3,77E-05	5,30E-03	1,71E-02	0	7,48E-05	2,41E-04	4,80E-06	-5,17E-03
AP	kg SO <sub>2</sub> -eq	1,80E-01	9,66E-03	7,95E-04	8,24E-02	1,91E-01	0	1,06E-03	1,06E-02	7,42E-05	-2,90E-02
EP	kg PO <sub>4</sub> <sup>3-</sup> -eq	3,58E-02	1,04E-03	2,11E-04	6,98E-03	3,70E-02	0	1,11E-04	4,14E-03	1,01E-05	-7,03E-03
ADPM	kg Sb -eq	4,70E-04	1,00E-04	3,96E-06	1,07E-04	5,74E-04	0	1,37E-05	4,20E-06	2,22E-07	-4,58E-05
ADPE	MJ	3,08E+02	7,34E+01	2,51E+00	1,36E+02	3,84E+02	0	7,96E+00	8,45E+00	3,63E-01	-5,65E+01
GWPIOBC	kg CO <sub>2</sub> -eq	1,41E+02	4,72E+00	0,00E+00	1,27E+01	1,46E+02	0	5,30E-01	8,57E+01	4,21E-02	-5,47E+00

GWP Global warming potential; ODP Depletion potential of the stratospheric ozone layer; POCP Formation potential of tropospheric photochemical oxidants; AP Acidification potential of land and water; EP Eutrophication potential; ADPM Abiotic depletion potential for non fossil resources; ADPE Abiotic depletion potential for fossil resources; GWP-IOBC/GHG Global warming potential calculated according to the principle of instantaneous oxidation (except emissions and uptake of biogenic carbon)

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