

# Environmental product declaration

in accordance with ISO 14025 and EN 15804+A2

TXRE 3X25 20(24)kV



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**amokabel**  
CABLE FOR LIFE

**Owner of the declaration:**

Amokabel AB

**Product:**

TXRE 3X25 20(24)kV

**Declared unit:**

1 m

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

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

PCR

NPCR 027:2020 Part B for Electrical cables and wires

**Program operator:**

EPD-Global

**Declaration number:**

**Issue date:**

**Valid to:**

**EPD software:**

LCAno EPD generator ID: 1590676

## General information

### Product

TXRE 3X25 20(24)kV

### Program operator:

EPD-Global  
Post Box 5250 Majorstuen, 0303 Oslo, Norway  
Phone: +47 977 22 020  
web: [www.epd-global.com](http://www.epd-global.com)

### Declaration number:

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

CEN Standard EN 15804:2012+A2:2019 serves as core PCR  
NPCR 027:2020 Part B for Electrical cables and wires

### 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.

### Declared unit:

1 m TXRE 3X25 20(24)kV

### Declared unit with option:

A1, A2, A3, A4, A5, B1, B2, B3, B4, B5, B6, B7, C1, C2, C3, C4, D

### Functional unit:

1 m of TXRE 3X25 20(24)kV used to transmit a reference electric current of 1A over a specific lifetime, 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-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

### 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: NEPDT32.

Third party verifier:

Vito D'Incognito, Take Care International, Take Care International

(no signature required)

### Owner of the declaration:

Amokabel AB  
Contact person: Oskar Wijk  
Phone: +46 481-750 810  
e-mail: [oskar.wijk@amokabel.com](mailto:oskar.wijk@amokabel.com)

### Manufacturer:

Amokabel AB

### Place of production:

Amokabel AB  
Kabelvägen 5  
SE-36443 Alstermo, Sweden

### Management system:

ISO 14001, ISO 9001, ISO 45001

### Organisation no:

556510-2471

### Issue date:

### Valid to:

### Year of study:

2024

### Comparability:

EPDs of construction products may not be comparable if they do not comply with EN 15804 and are not viewed 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-Global. Approval number: NEPDT142

Developer of EPD: Peter Eriksson

Reviewer of company-specific input data and EPD: Oskar Wijk

### Approved:

## Product

### Product description:

TXRE is a robust, armoured medium voltage submarine cable designed for reliable power distribution in demanding environments. Engineered for installation in water, soil and air, TXRE combines excellent electrical performance with high mechanical strength, making it suitable for utility, industrial and renewable energy applications.

The cable features compact stranded copper conductors, extruded semi-conductive screens and XLPE insulation to ensure long term electrical reliability and stable operating performance. Three insulated cores are stranded together with fillers and secured by a reinforced semi-conductive tape, providing a compact and durable cable construction.

A concentric layer of galvanized steel wire armouring delivers superior mechanical protection during installation and operation, particularly in underwater and exposed environments. The UV resistant HDPE outer sheath provides additional protection against moisture, abrasion and environmental influences.

Designed in accordance with IEC 60502-2, TXRE offers a maximum continuous operating temperature of +90°C and can withstand short circuit temperatures up to +250°C. Its robust design and proven materials ensure dependable performance and long service life in critical power distribution networks.

### Product specification

IEC 60228

IEC 60502-2

Amokabel Specification

Materials	kg	%
Copper conductor	0.71	16.15
Metal - Steel	2.02	45.94
Plastic - Polyethylene	1.64	37.23
Plastic - Polypropylene (PP)	0.03	0.6823
Total	4.40	100.00

Packaging	kg	%
Packaging - Wood	0.23	100.00
Total incl. packaging	4.63	100.00

### Technical data:

- Medium voltage submarine cable for power distribution
- Suitable for installation in water, soil and air
- XLPE insulated for high electrical reliability
- Compact stranded copper conductors according to IEC 60228 Class 2
- Extruded semi-conductive conductor and insulation screens
- Galvanized steel wire armouring for enhanced mechanical protection
- UV resistant HDPE outer sheath
- Maximum conductor temperature: +90°C
- Maximum short circuit temperature: +250°C
- Designed according to IEC 60502-2

### Market:

Scandinavia

### Reference service life, product

40 years

### Reference service life, building or construction works

40 years

## LCA: Calculation rules

### Declared unit:

1 m TXRE 3X25 20(24)kV

### Cut-off criteria:

All major raw materials and all the essential energy is included. The production processes for raw materials and energy flows with very small amounts (less than 1%) are not included. These cut-off criteria do not apply for hazardous materials and substances.

### Allocation:

The allocation is made in accordance with the provisions of EN 15804. Incoming energy and water and waste production in-house is allocated equally among all products through mass allocation. Effects of primary production of recycled materials is allocated to the main product in which the material was used. The recycling process and transportation of the material is allocated to this analysis.

**Data quality:**

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

Materials	Source	Data quality	Year
Copper conductor	ecoinvent 3.6	Database	2019
Metal - Steel	Ecoinvent 3.6	Database	2019
Packaging - Wood	Modified ecoinvent 3.6	Database	2019
Plastic - Polyethylene	ecoinvent 3.6	Database	2019
Plastic - Polypropylene (PP)	ecoinvent 3.6	Database	2019

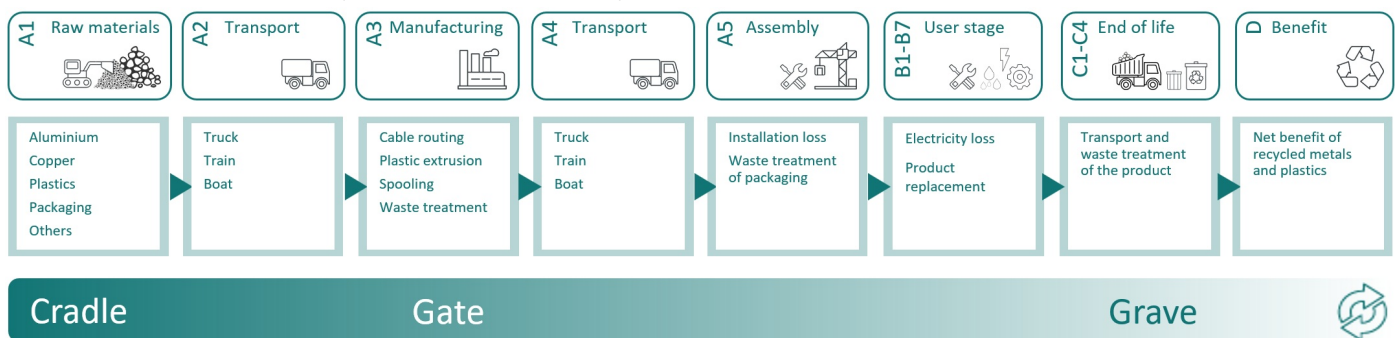
**System boundaries (X=included, MND=module not declared, MNR=module not relevant)**

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	X	X	X	X	X	X	X	X	X	X	X	X	X

**System boundary:**

The analysis is a cradle-to-grave study made for 1 m of cable manufactured, installed and used outdoor over the lifetime 40 years. Modules A1-A5 are included in the analysis. It includes the extraction and production of raw materials, transportation to the factory, the production process itself, transportation to market and installation of the product. Modules B1-B7 describe the use phase and are declared for an outdoor cable. B6 is the operational energy usage based on a normal use. C1-C4, D are mandatory modules which include end of life treatment of materials and the benefits from recycling.

The flowchart below illustrates the system boundaries of the analysis:



**Additional technical information:**

## LCA: Scenarios and additional technical information

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

Module A4 = The scenario considered in this EPD is based on true distances from suppliers.

Modules A5 = 2 % product losses during installation are estimated by the company. No energy use for installation has been quantified since this operation is assumed to be done with other products and should be assessed at a construction works level. Cable drums are reused and assumed under the cut-off criterion of 1%.

For B1-B7 the default environmental impact and resource indicators in the EPD are assumed to be zero. Some other potential environmental impacts from the use phase might not be covered by the scope of an EPD.

Module B6 = The operational energy use of the cable is calculated based on the methodology described in PEP Ecopassport, Product Specific Rules (PSR) for wires, cables

and accessories, reference PSR-0001-ed3-EN-2015 10 16. The following parameters are used to calculate the electricity loss of the cable:

- Estimate service life = 40 years
- Number of conductors = 5 units
- Use rate = 100 percent (according to appendix 1 of the PSR)
- Linear conductor resistivity = 0,000193 Ohm per meter
- Current intensity = 1 Ampere

Module C1 = For both buildings and construction works, cables will be taken out as part of a larger demolition. The energy use for cable removal compared to other heavier materials is assumed to be low. This module can therefore be included with zero impact.

Module C2 = Estimated average of 85km (Scandinavian standard).

Modules C3 and C4 = Waste treatment of the product follows the default values provided in EN 50693, Product Category Rules for life cycle assessments of electronic and electrical products and systems, table G.4. This table specified how different types of raw materials used in A1 will likely be treated during the end-of-life of the product. Waste treatments in C3 include material recycling and incineration with and without energy recovery and fly ash extraction. Disposal in C4 consist of landfilling of different waste fractions and of ashes.














Module D = The recyclability of metals and plastics allows the producers a credit for the net scrap that is produced at the end of a product's life. The benefits from recycling of net scrap are described in formula from EN 15804:2012+A2:2019. Substitution of heat and electricity generated by the incineration with energy recovery of plastic insulation and other parts is also calculated in module D.

Transport from production place to user (A4)	Capacity utilisation (incl. return) %	Distance (km)	Fuel/Energy Consumption	Unit	Value (Liter/tonne)
Truck, 16-32 tonnes, EURO 6 (km)	36.7 %	350.00	0.043	l/tkm	15.05
Assembly (A5)		Unit	Value		
Product loss during installation (percentage of cable)	Units	0.02			
Waste, wood, to average treatment - A5 including transport (kg)	kg	0.23			
Operational energy (B6)		Unit	Value		
Electricity, Sweden (kWh)	kWh	0.000268			
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)	36.7 %	85.00	0.044	l/tkm	3.74
Waste processing (C3)		Unit	Value		
Copper to recycling (kg)	kg	0.426			
Steel to recycling (kg)	kg	1.62			
Waste treatment of polyethylene (PE), incineration with energy recovery and fly ash extraction (kg)	kg	0.8185			
Polypropylene (PP) to recycling (kg)	kg	0.006			
Waste treatment of polypropylene (PP), incineration with energy recovery and fly ash extraction (kg)	kg	0.012			
Disposal (C4)		Unit	Value		
Landfilling of copper (kg)	kg	0.284			
Landfilling of steel (kg)	kg	0.404			
Landfilling of plastic mixture (kg)	kg	0.8305			
Landfilling of ashes from incineration of Polyethylene (PE), process per kg ashes and residues (kg)	kg	0.02884			
Landfilling of ashes from incineration of Polypropylene (PP), process per kg ashes and residues (kg)	kg	0.0003571			














Benefits and loads beyond the system boundaries (D)	Unit	Value			
Substitution of primary copper with net scrap (kg)	kg	0.2922			
Substitution of primary steel with net scrap (kg)	kg	0.00			
Substitution of electricity, in Norway (MJ)	MJ	1.61			
Substitution of thermal energy, district heating, in Norway (MJ)	MJ	24.31			
Substitution of Polypropylene, PP granulate (kg)	kg	0.005886			

## 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	B1	B2	B3
	GWP-total	kg CO <sub>2</sub> -eq	9.07E+00	2.21E-01	2.30E-01	2.65E-01	6.04E-01	0	0	0
	GWP-fossil	kg CO <sub>2</sub> -eq	9.28E+00	2.21E-01	2.14E-01	2.65E-01	2.59E-01	0	0	0
	GWP-biogenic	kg CO <sub>2</sub> -eq	-2.36E-01	9.13E-05	4.36E-03	1.09E-04	3.44E-01	0	0	0
	GWP-luluc	kg CO <sub>2</sub> -eq	2.38E-02	7.86E-05	1.21E-02	9.42E-05	7.23E-04	0	0	0
	ODP	kg CFC11 -eq	5.58E-07	5.00E-08	9.26E-08	5.99E-08	1.66E-08	0	0	0
	AP	mol H+ -eq	2.06E-01	6.34E-04	1.24E-03	7.60E-04	4.23E-03	0	0	0
	EP-FreshWater	kg P -eq	1.78E-03	1.76E-06	1.26E-05	2.11E-06	3.61E-05	0	0	0
	EP-Marine	kg N -eq	1.61E-02	1.25E-04	2.18E-04	1.50E-04	3.60E-04	0	0	0
	EP-Terrestrial	mol N -eq	2.21E-01	1.40E-03	2.83E-03	1.68E-03	4.84E-03	0	0	0
	POCP	kg NMVOC -eq	6.66E-02	5.38E-04	6.51E-04	6.45E-04	1.44E-03	0	0	0
	ADP-minerals&metals <sup>1</sup>	kg Sb-eq	1.77E-03	6.10E-06	7.61E-06	7.31E-06	3.59E-05	0	0	0
	ADP-fossil <sup>1</sup>	MJ	1.99E+02	3.34E+00	2.19E+01	4.00E+00	4.66E+00	0	0	0
	WDP <sup>1</sup>	m <sup>3</sup>	6.52E+02	3.23E+00	2.21E+03	3.87E+00	5.76E+01	0	0	0









Indicator		Unit	B4	B5	B6	B7	C1	C2	C3	C4	D
	GWP-total	kg CO <sub>2</sub> -eq	0	0	1.47E-05	0	0	6.56E-02	2.50E+00	1.06E-01	-8.60E-01
	GWP-fossil	kg CO <sub>2</sub> -eq	0	0	1.36E-05	0	0	6.56E-02	2.50E+00	1.06E-01	-8.51E-01
	GWP-biogenic	kg CO <sub>2</sub> -eq	0	0	2.76E-07	0	0	2.67E-05	2.02E-05	9.31E-06	-3.59E-03
	GWP-luluc	kg CO <sub>2</sub> -eq	0	0	8.81E-07	0	0	2.29E-05	2.97E-06	5.94E-06	-5.59E-03
	ODP	kg CFC11 -eq	0	0	7.00E-12	0	0	1.49E-08	1.92E-09	5.52E-09	-1.03E-02
	AP	mol H+ -eq	0	0	8.83E-08	0	0	2.68E-04	3.13E-04	1.47E-04	-1.18E-01
	EP-FreshWater	kg P -eq	0	0	9.17E-10	0	0	5.15E-07	1.92E-07	2.86E-07	-8.03E-04
	EP-Marine	kg N -eq	0	0	1.50E-08	0	0	7.95E-05	1.50E-04	1.51E-04	-5.20E-03
	EP-Terrestrial	mol N -eq	0	0	1.98E-07	0	0	8.79E-04	1.63E-03	5.85E-04	-7.89E-02
	POCP	kg NMVOC -eq	0	0	4.51E-08	0	0	2.69E-04	3.89E-04	1.86E-04	-2.14E-02
	ADP-minerals&metals <sup>1</sup>	kg Sb-eq	0	0	5.43E-10	0	0	1.78E-06	8.75E-08	1.47E-07	-6.58E-04
	ADP-fossil <sup>1</sup>	MJ	0	0	1.59E-03	0	0	9.89E-01	1.64E-01	4.33E-01	-8.68E+00
	WDP <sup>1</sup>	m <sup>3</sup>	0	0	1.61E-01	0	0	9.43E-01	3.71E-01	7.67E+00	1.28E+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<sup>-3</sup> = 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	B1	B2	B3	
 PM	Disease incidence	7.79E-07	1.35E-08	9.20E-09	1.62E-08	1.71E-08	0	0	0	
 IRP <sup>2</sup>	kgBq U235 -eq	4.83E-01	1.46E-02	7.46E-01	1.75E-02	2.56E-02	0	0	0	
 ETP-fw <sup>1</sup>	CTUe	2.26E+03	2.47E+00	1.16E+01	2.96E+00	5.42E+01	0	0	0	
 HTP-c <sup>1</sup>	CTUh	6.50E-08	0.00E+00	3.34E-10	0.00E+00	1.32E-09	0	0	0	
 HTP-nc <sup>1</sup>	CTUh	3.51E-06	2.70E-09	8.11E-09	3.24E-09	7.10E-08	0	0	0	
 SQP <sup>1</sup>	dimensionless	6.39E+01	2.33E+00	9.70E+00	2.80E+00	1.65E+00	0	0	0	
Indicator	Unit	B4	B5	B6	B7	C1	C2	C3	C4	D
 PM	Disease incidence	0	0	1.00E-12	0	0	4.72E-09	1.23E-09	2.70E-09	-3.05E-07
 IRP <sup>2</sup>	kgBq U235 -eq	0	0	5.45E-05	0	0	4.32E-03	2.77E-04	2.52E-03	-2.08E-02
 ETP-fw <sup>1</sup>	CTUe	0	0	8.39E-04	0	0	7.28E-01	4.88E-01	4.26E+02	-1.09E+03
 HTP-c <sup>1</sup>	CTUh	0	0	0.00E+00	0	0	0.00E+00	5.60E-11	2.50E-11	-1.54E-08
 HTP-nc <sup>1</sup>	CTUh	0	0	1.00E-12	0	0	7.87E-10	2.10E-09	5.39E-10	-1.32E-06
 SQP <sup>1</sup>	dimensionless	0	0	7.04E-04	0	0	6.82E-01	1.99E-02	1.16E+00	-2.72E+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<sup>-3</sup> = 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	B1	B2	B3	
PERE	MJ	1.85E+01	4.78E-02	1.05E+01	5.73E-02	5.85E-01	0	0	0	
PERM	MJ	3.19E+00	0.00E+00	0.00E+00	0.00E+00	-3.13E+00	0	0	0	
PERT	MJ	2.17E+01	4.78E-02	1.05E+01	5.73E-02	-2.54E+00	0	0	0	
PENRE	MJ	1.33E+02	3.34E+00	2.19E+01	4.00E+00	3.34E+00	0	0	0	
PENRM	MJ	7.19E+01	0.00E+00	0.00E+00	0.00E+00	2.82E-02	0	0	0	
PENRT	MJ	2.05E+02	3.34E+00	2.19E+01	4.00E+00	3.37E+00	0	0	0	
SM	kg	1.78E+00	0.00E+00	7.31E-06	0.00E+00	3.57E-02	0	0	0	
RSF	MJ	6.70E-01	1.71E-03	4.06E-02	2.05E-03	1.44E-02	0	0	0	
NRSF	MJ	-8.86E-01	6.11E-03	1.28E-01	7.32E-03	-1.43E-02	0	0	0	
FW	m <sup>3</sup>	1.74E-01	3.57E-04	2.38E-02	4.28E-04	4.06E-03	0	0	0	




Indicator	Unit	B4	B5	B6	B7	C1	C2	C3	C4	D
PERE	MJ	0	0	7.64E-04	0	0	1.40E-02	4.81E-03	4.15E-02	-1.50E+01
PERM	MJ	0	0	0.00E+00	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ	0	0	7.64E-04	0	0	1.40E-02	4.81E-03	4.15E-02	-1.50E+01
PENRE	MJ	0	0	1.59E-03	0	0	9.89E-01	1.64E-01	4.33E-01	-8.50E+00
PENRM	MJ	0	0	0.00E+00	0	0	0.00E+00	-7.05E+01	0.00E+00	-1.93E-01
PENRT	MJ	0	0	1.59E-03	0	0	9.89E-01	-7.03E+01	4.33E-01	-8.69E+00
SM	kg	0	0	0.00E+00	0	0	0.00E+00	0.00E+00	0.00E+00	2.04E-01
RSF	MJ	0	0	2.96E-06	0	0	4.99E-04	1.36E-04	8.65E-04	1.69E-02
NRSF	MJ	0	0	9.36E-06	0	0	1.78E-03	0.00E+00	3.28E-03	-6.96E-01
FW	m <sup>3</sup>	0	0	1.74E-06	0	0	1.04E-04	4.62E-04	5.50E-04	-3.22E-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 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<sup>-3</sup> = 0.009"






End of life - Waste										
Indicator		Unit	A1	A2	A3	A4	A5	B1	B2	B3
	HWD	kg	6.58E-02	1.72E-04	2.47E-03	2.06E-04	2.38E-03	0	0	0
	NHWD	kg	2.54E+00	1.62E-01	5.00E-01	1.95E-01	3.30E-01	0	0	0
	RWD	kg	4.35E-04	2.27E-05	3.28E-04	2.72E-05	1.65E-05	0	0	0






Indicator		Unit	B4	B5	B6	B7	C1	C2	C3	C4	D
	HWD	kg	0	0	8.32E-08	0	0	5.04E-05	0.00E+00	5.05E-02	-8.01E-03
	NHWD	kg	0	0	5.25E-06	0	0	4.72E-02	0.00E+00	1.54E+00	-3.84E-01
	RWD	kg	0	0	2.40E-08	0	0	6.74E-06	0.00E+00	2.94E-06	-1.77E-05

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

"Reading example: 9.0 E-03 = 9.0\*10<sup>-3</sup> = 0.009"

End of life - Output flow										
Indicator		Unit	A1	A2	A3	A4	A5	B1	B2	B3
	CRU	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0	0	0
	MFR	kg	0.00E+00	0.00E+00	4.54E-01	0.00E+00	5.01E-02	0	0	0
	MER	kg	0.00E+00	0.00E+00	1.13E-02	0.00E+00	2.47E-01	0	0	0
	EEE	MJ	0.00E+00	0.00E+00	1.53E-02	0.00E+00	1.92E-01	0	0	0
	EET	MJ	0.00E+00	0.00E+00	2.32E-01	0.00E+00	2.91E+00	0	0	0

Indicator		Unit	B4	B5	B6	B7	C1	C2	C3	C4	D
	CRU	kg	0	0	0.00E+00	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	MFR	kg	0	0	0.00E+00	0	0	0.00E+00	2.05E+00	7.45E-05	-8.00E-03
	MER	kg	0	0	0.00E+00	0	0	0.00E+00	8.31E-01	1.82E-06	-1.07E-03
	EEE	MJ	0	0	0.00E+00	0	0	0.00E+00	1.61E+00	1.18E-04	-2.60E-03
	EET	MJ	0	0	0.00E+00	0	0	0.00E+00	2.43E+01	1.79E-03	-3.94E-02

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<sup>-3</sup> = 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	9.51E-02

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

## 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, Sweden (kWh)	ecoinvent 3.6	54.94	g CO <sub>2</sub> -eq/kWh

### Dangerous substances

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

### Indoor environment

N/A

## Additional Environmental Information

Additional environmental impact indicators required in NPCR Part A for construction products										
Indicator	Unit	A1	A2	A3	A4	A5	B1	B2	B3	
GWPIOBC	kg CO <sub>2</sub> -eq	9.23E+00	2.21E-01	2.30E-01	2.65E-01	2.59E-01	0	0	0	
Indicator	Unit	B4	B5	B6	B7	C1	C2	C3	C4	D
GWPIOBC	kg CO <sub>2</sub> -eq	0	0	1.47E-05	0	0	6.56E-02	2.50E+00	1.06E-01	-4.86E-01

GWPI-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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