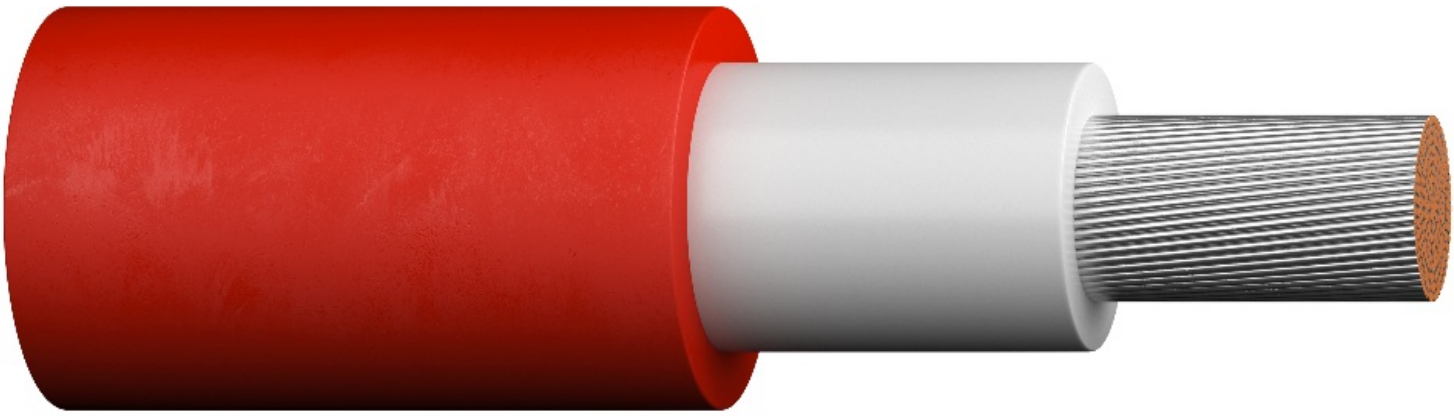
epd-norge
Global program operatør

Environmental product declaration

in accordance with ISO 14025 and EN 15804+A2

TECSUN (PV) H1Z2Z2-K Pure 1x4mm² RD



Draka | A Brand of Prysmian Group

prysmian

The Norwegian EPD Foundation

Owner of the declaration:
Prysmian Group Sverige AB

Product:
TECSUN (PV) H1Z2Z2-K Pure 1x4mm² RD

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:
The Norwegian EPD Foundation

Declaration number:

Registration number:

Issue date:

Valid to:

EPD software:
LCAno EPD generator ID: 280386

General information

Product

TECSUN (PV) H1Z2Z2-K Pure 1x4mm² RD

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:

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

Declared unit:

1 m TECSUN (PV) H1Z2Z2-K Pure 1x4mm² RD

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 installed TECSUN (PV) H1Z2Z2-K Pure 1x4mm² photovoltaic cable, used to transmit a reference energy throughput of 1A over a period of 10 years.

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: NEPDT32.

Third party verifier:

Vito D'Incognito, Take Care International

(no signature required)

Owner of the declaration:

Prysmian Group Sverige AB
Contact person: Anders Sjöland
Phone: +46 706128204
e-mail: anders.sjoland@prysmiangroup.com

Manufacturer:

Prysmian Group Sverige AB
Vallgatan 5
571 41 Nässjö, Sweden

Place of production:

Prysmian Group production site Emmen (Netherlands)
Abel Tasmanstraat 1
7821 AN Emmen, Netherlands

Management system:

ISO 9001, ISO 14001, ISO 45001

Organisation no:

556556-2104

Issue date:

Valid to:

Year of study:

2023

Comparability:

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

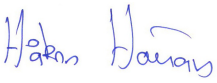
Development and verification of EPD:

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. Approval number: NEPDT33

Developer of EPD: Siri Andersen

Reviewer of company-specific input data and EPD: Kristoffer Berglund

Approved:



Håkon Hauan, CEO EPD-Norge

Product

Product description:

TECSUN is a solar cable type H1Z2Z2-K for PV systems, specifically to connect solar panels to converters. This PV cable is suitable for indoor and outdoor use, as well as for underground installation and is used in building installations, residential constructions, and installations for sustainable and renewable energy. The TÜV and VDE certificates of this cable guarantee its high quality and long service life. Since the non-armoured installation cable is compatible with default socket connections, the installer can install it quickly. This cable has unique direct-bury properties, provided that the installer protects it against damage in accordance with NEN1010. It is also suitable for being installed in water, which makes it perfect for floating solar panels.

This product is also available with a BLACK outer sheath.

Product specification

Conductor material Copper
Core insulation material HEPR rubber
Material outer sheath EVA rubber
UV resistant Yes

Materials	kg	%
Plastic - Ethylene vinyl acetate (EVA)	0,02	30,23
Metal - Copper	0,03	53,20
Plastic - Ethylene propylene rubber (EPR)	0,01	16,57
Total	0,06	100,00

Technical data:

TECSUN (PV) H1Z2Z2-K Pure 1x4mm² RD
SAP Code 20434255
External art.code 0500775

Synonyms: PV cable, Solar cable, solar panel cable, photo, voltaic, photo voltaic

Market:

Scandinavia

Reference service life, product

10 years. Standard lifetime for photovoltaic power plants applications, provided in appendix 1 of PSR for wires, cables, and accessories of PEP Ecopassport.

(The actual service life for the product as stated by the manufacturer, may differ)

Reference service life, building or construction works

10 years. Estimation made to match the product service life and keep the EPD environmental impact calculations at the product level.

LCA: Calculation rules

Declared unit:

1 m TECSUN (PV) H1Z2Z2-K Pure 1x4mm² RD

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.

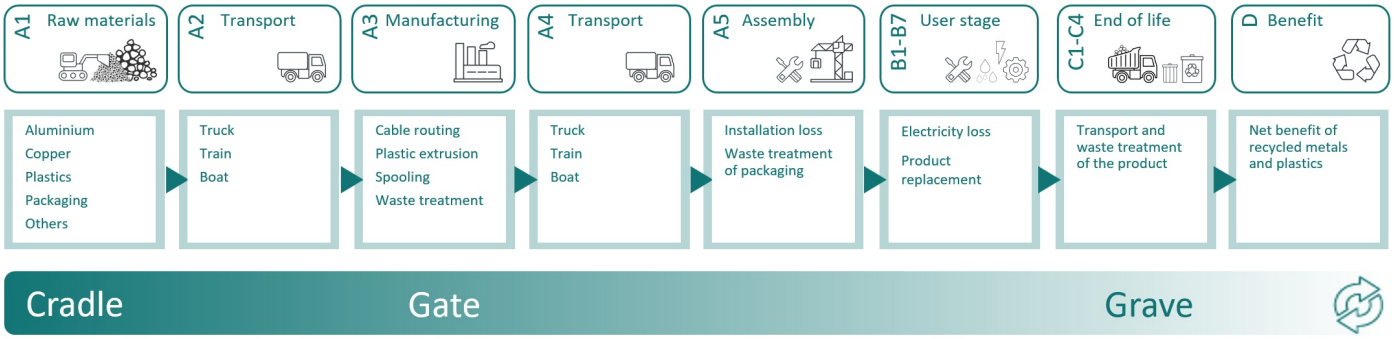
Materials	Source	Data quality	Year
Metal - Copper	ecoinvent 3.6	Database	2019
Plastic - Ethylene propylene rubber (EPR)	ecoinvent 3.6	Database	2019
Plastic - Ethylene vinyl acetate (EVA)	ecoinvent 3.6	Database	2019

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

System boundary:

The flowchart below illustrates the system boundaries of the analysis:



Additional technical information:

Rated voltage U0/U (Um) 0.6/1 (1.2) kV
Test voltage [kV] 6.5
Reaction-to-fire class (acc. EN 13501-6) Dca
Smoke development class (acc. EN 13501-6) s2
Euro class flaming droplets/particles (acc. EN 13501-6) d2
Euro class acidity (acc. EN 13501-6) a1
Max. conductor temperature 90
Min. outer temperature during installation [°C] -25
Bending radius (rule) Acc. to EN 50565-1

LCA: Scenarios and additional technical information

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

Module A4 = In A4, an average transport from production plant to Scandinavian market is considered.

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%.

Modules B1, B2, B3, B5, and B7 = Company data shows that no significant activities have been reported for use, maintenance, repair, replacement, refurbishment, and water use. This reflects an absence of impacts during the 10 years reference service life of the cable in these modules.

Module B4 =
The service life of the building is the same as the service life of the product, no replacement activities are taking place in module B4

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:
- Reference service life = 10 years (according to appendix 1 of the PSR)
- Number of conductors = 1 unit
- Use rate = 50% percent (according to appendix 1 of the PSR)
Linear conductor resistivity = 0,00509 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 heaver materials is assumed to be low. This module can therefore be included with zero impact.

Module C2 = 300 km is added as default average transport to nearest waste treatment facility.

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, over 32 tonnes, EURO 5 (km)	53,3 %	1692	0,023	l/tkm	38,92

Assembly (A5)	Unit	Value			
Product loss during installation (percentage of cable)	Units/DU	0,02			

Operational energy (B6)	Unit	Value			
Electricity, Sweden (kWh)	kWh/DU	0,22			

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 %	300	0,044	l/tkm	13,20

Waste processing (C3)	Unit	Value			
Copper to recycling (kg)	kg	0,02			
Waste treatment of plastic mixture, incineration with energy recovery and fly ash extraction (kg)	kg	0,01			

Disposal (C4)	Unit	Value			
Landfilling of ashes from incineration of Plastic mixture, process per kg ashes and residues (kg)	kg	0,00			
Landfilling of copper (kg)	kg	0,01			
Landfilling of plastic mixture (kg)	kg	0,01			

Benefits and loads beyond the system boundaries (D)	Unit	Value			
Substitution of electricity (MJ)	MJ	0,02			
Substitution of primary copper with net scrap (kg)	kg	0,00			
Substitution of thermal energy, district heating (MJ)	MJ	0,32			

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_2 -eq	1,67E-01	8,98E-04	1,43E-02	8,96E-03	4,56E-03	0	0	0
	GWP-fossil	kg CO_2 -eq	1,64E-01	8,97E-04	1,37E-02	8,95E-03	4,50E-03	0	0	0
	GWP-biogenic	kg CO_2 -eq	2,78E-03	3,68E-07	4,90E-04	3,67E-06	6,54E-05	0	0	0
	GWP-luluc	kg CO_2 -eq	1,53E-04	2,62E-07	2,17E-05	2,61E-06	3,58E-06	0	0	0
	ODP	kg CFC11 -eq	1,28E-07	2,07E-10	1,16E-09	2,07E-09	2,65E-09	0	0	0
	AP	mol H+ -eq	6,58E-03	3,77E-06	5,75E-05	3,76E-05	1,34E-04	0	0	0
	EP-FreshWater	kg P -eq	5,31E-05	6,84E-09	9,96E-07	6,82E-08	1,08E-06	0	0	0
	EP-Marine	kg N -eq	4,58E-04	1,13E-06	8,70E-06	1,13E-05	9,77E-06	0	0	0
	EP-Terrestial	mol N -eq	6,71E-03	1,25E-05	9,69E-05	1,25E-04	1,41E-04	0	0	0
	POCP	kg NMVOC -eq	1,69E-03	4,03E-06	2,53E-05	4,02E-05	3,56E-05	0	0	0
	ADP-minerals&metals[1]	kg Sb-eq	6,83E-05	1,54E-08	7,16E-08	1,53E-07	1,37E-06	0	0	0
	ADP-fossil[1]	MJ	2,73E+00	1,40E-02	2,32E-01	1,39E-01	6,35E-02	0	0	0
	WDP[1]	m^3	1,05E+01	1,07E-02	2,88E+00	1,07E-01	2,74E-01	0	0	0

Indicator		**Unit**	B4	B5	B6	B7	C1	C2	C3	C4	D
	GWP-total	kg CO_2 -eq	0	0	1,22E-02	0	0	2,91E-03	3,22E-02	1,73E-03	-8,02E-03
	GWP-fossil	kg CO_2 -eq	0	0	1,13E-02	0	0	2,91E-03	3,22E-02	1,73E-03	-7,92E-03
	GWP-biogenic	kg CO_2 -eq	0	0	2,29E-04	0	0	1,19E-06	7,00E-07	1,39E-07	-3,21E-05
	GWP-luluc	kg CO_2 -eq	0	0	7,33E-04	0	0	1,02E-06	1,31E-07	9,97E-08	-6,96E-05
	ODP	kg CFC11 -eq	0	0	5,53E-09	0	0	6,63E-10	7,00E-11	9,20E-11	-1,34E-04
	AP	mol H+ -eq	0	0	7,35E-05	0	0	1,19E-05	7,06E-06	2,44E-06	-1,04E-03
	EP-FreshWater	kg P -eq	0	0	7,63E-07	0	0	2,29E-08	6,21E-09	4,64E-09	-7,05E-06
	EP-Marine	kg N -eq	0	0	1,25E-05	0	0	3,53E-06	3,38E-06	2,49E-06	-4,69E-05
	EP-Terrestial	mol N -eq	0	0	1,65E-04	0	0	3,90E-05	3,46E-05	9,78E-06	-7,04E-04
	POCP	kg NMVOC -eq	0	0	3,75E-05	0	0	1,19E-05	8,35E-06	3,11E-06	-1,92E-04
	ADP-minerals&metals[1]	kg Sb-eq	0	0	4,52E-07	0	0	7,88E-08	3,53E-09	2,39E-09	-5,74E-06
	ADP-fossil[1]	MJ	0	0	1,32E+00	0	0	4,39E-02	4,43E-03	7,24E-03	-8,06E-02
	WDP[1]	m^3	0	0	1,34E+02	0	0	4,19E-02	3,20E-02	1,33E-01	6,48E-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"
*INA Indicator Not Assessed

1. The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator

Remarks to environmental impacts

Additional environmental impact indicators

Indicator		Unit	A1	A2	A3	A4	A5	B1	B2	B3
	PM	Disease incidence	1,93E-08	7,90E-11	1,65E-10	7,88E-10	4,12E-10	0	0	0
	IRP[2]	kgBq U235 -eq	1,03E-02	6,10E-05	1,69E-03	6,08E-04	2,57E-04	0	0	0
	ETP-fw[1]	CTUe	8,07E+01	1,02E-02	1,47E-01	1,02E-01	1,77E+00	0	0	0
	HTP-c[1]	CTUh	1,52E-09	0,00E+00	5,00E-12	0,00E+00	3,00E-11	0	0	0
	HTP-nc[1]	CTUh	1,12E-07	1,00E-11	1,52E-10	9,80E-11	2,24E-09	0	0	0
	SQP[1]	dimensionless	1,65E+00	1,60E-02	4,88E-02	1,60E-01	3,86E-02	0	0	0

Indicator		Unit	B4	B5	B6	B7	C1	C2	C3	C4	D
	PM	Disease incidence	0	0	5,29E-10	0	0	2,10E-10	3,10E-11	4,60E-11	-2,96E-09
	IRP[2]	kgBq U235 -eq	0	0	4,53E-02	0	0	1,92E-04	1,11E-05	4,26E-05	-2,35E-04
	ETP-fw[1]	CTUe	0	0	6,98E-01	0	0	3,23E-02	6,81E-02	7,67E+00	-9,54E+00
	HTP-c[1]	CTUh	0	0	2,00E-11	0	0	0,00E+00	2,00E-12	0,00E+00	-1,35E-10
	HTP-nc[1]	CTUh	0	0	4,83E-10	0	0	3,50E-11	8,50E-11	9,00E-12	-1,15E-08
	SQP[1]	dimensionless	0	0	5,85E-01	0	0	3,03E-02	8,09E-04	1,90E-02	-2,95E-01

PM = Particulate Matter emissions; IRP = Ionizing radiation – human health; ETP-fw = Eco toxicity – freshwater; HTP-c = Human toxicity – cancer effects; HTP-nc = Human toxicity – non cancer effects; SQP = Potential Soil Quality Index (dimensionless)

"Reading example: 9,0 E-03 = 9,0*10-3 = 0,009"
*INA Indicator Not Assessed

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

Resource use

Indicator		Unit	A1	A2	A3	A4	A5	B1	B2	B3
	PERE	MJ	4,43E-01	1,76E-04	3,72E-02	1,75E-03	9,67E-03	0	0	0
	PERM	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0	0	0
	PERT	MJ	4,43E-01	1,76E-04	3,72E-02	1,75E-03	9,67E-03	0	0	0
	PENRE	MJ	2,29E+00	1,40E-02	2,33E-01	1,39E-01	5,46E-02	0	0	0
	PENRM	MJ	4,45E-01	0,00E+00	0,00E+00	0,00E+00	9,07E-05	0	0	0
	PENRT	MJ	2,74E+00	1,40E-02	2,33E-01	1,39E-01	5,47E-02	0	0	0
	SM	kg	5,05E-03	0,00E+00	0,00E+00	0,00E+00	1,01E-04	0	0	0
	RSF	MJ	1,19E-02	6,15E-06	2,70E-03	6,13E-05	2,95E-04	0	0	0
	NRSF	MJ	-1,57E-04	2,06E-05	6,66E-04	2,05E-04	1,64E-05	0	0	0
	FW	m^3	2,91E-03	1,59E-06	1,97E-04	1,59E-05	6,36E-05	0	0	0

Indicator		Unit	B4	B5	B6	B7	C1	C2	C3	C4	D
	PERE	MJ	0	0	6,36E-01	0	0	6,19E-04	2,47E-04	7,19E-04	-1,84E-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	6,36E-01	0	0	6,19E-04	2,47E-04	7,19E-04	-1,84E-01
	PENRE	MJ	0	0	1,33E+00	0	0	4,39E-02	4,43E-03	7,24E-03	-8,06E-02
	PENRM	MJ	0	0	0,00E+00	0	0	0,00E+00	-4,40E-01	0,00E+00	0,00E+00
	PENRT	MJ	0	0	1,33E+00	0	0	4,39E-02	-4,36E-01	7,24E-03	-8,06E-02
	SM	kg	0	0	0,00E+00	0	0	0,00E+00	0,00E+00	0,00E+00	1,78E-03
	RSF	MJ	0	0	2,46E-03	0	0	2,22E-05	5,30E-06	1,49E-05	1,41E-04
	NRSF	MJ	0	0	7,78E-03	0	0	7,91E-05	0,00E+00	6,58E-06	-9,24E-03
	FW	m^3	0	0	1,44E-03	0	0	4,62E-06	3,75E-05	9,28E-06	-3,44E-04

PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non renewable primary energy resources used as raw materials; PENRT = Total use of non renewable primary energy resources; SM = Use of secondary materials; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Net use of fresh water

"Reading example: 9,0 E-03 = 9,0*10-3 = 0,009"
*INA Indicator Not Assessed

End of life - Waste

Indicator		Unit	A1	A2	A3	A4	A5	B1	B2	B3
	HWD	kg	1,15E-03	7,64E-07	8,85E-04	7,62E-06	5,05E-05	0	0	0
	NHWD	kg	6,80E-02	1,21E-03	1,48E-03	1,21E-02	2,22E-03	0	0	0
	RWD	kg	1,02E-05	9,53E-08	1,40E-06	9,50E-07	2,59E-07	0	0	0

Indicator		Unit	B4	B5	B6	B7	C1	C2	C3	C4	D
	HWD	kg	0	0	6,92E-05	0	0	2,24E-06	0,00E+00	4,77E-04	-7,02E-05
	NHWD	kg	0	0	4,37E-03	0	0	2,10E-03	0,00E+00	2,62E-02	-3,55E-03
	RWD	kg	0	0	1,99E-05	0	0	2,99E-07	0,00E+00	4,93E-08	-1,98E-07

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

"Reading example: 9,0 E-03 = 9,0*10-3 = 0,009"
*INA Indicator Not Assessed

End of life - Output flow

Indicator		Unit	A1	A2	A3	A4	A5	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	1,55E-05	0,00E+00	3,72E-04	0	0	0
	MER	kg	0,00E+00	0,00E+00	3,71E-03	0,00E+00	3,46E-04	0	0	0
	EEE	MJ	0,00E+00	0,00E+00	2,19E-03	0,00E+00	4,62E-04	0	0	0
	EET	MJ	0,00E+00	0,00E+00	3,32E-02	0,00E+00	6,99E-03	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	1,86E-02	1,22E-06	-6,97E-05
	MER	kg	0	0	0,00E+00	0	0	0,00E+00	1,36E-02	2,99E-08	-9,18E-06
	EEE	MJ	0	0	0,00E+00	0	0	0,00E+00	2,09E-02	1,94E-06	-2,25E-05
	EET	MJ	0	0	0,00E+00	0	0	0,00E+00	3,16E-01	2,93E-05	-3,40E-04

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	0,00E+00

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, European average (kWh)	ecoinvent 3.6	428,03	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	B1	B2	B3	
GWPIOBC	kg CO_2 -eq	1,67E-01	8,98E-04	1,48E-02	8,96E-03	4,57E-03	0	0	0	

Indicator	**Unit**	B4	B5	B6	B7	C1	C2	C3	C4	D
GWPIOBC	kg CO_2 -eq	0	0	1,22E-02	0	0	2,91E-03	3,22E-02	1,81E-03	-4,76E-03

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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The operational energy use in module B6 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.

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