

Environmental product declaration

in accordance with ISO 14025 and EN 15804+A2

Uldal Toppsving Tre



The Norwegian EPD Foundation

Owner of the declaration:

Uldal AS

Product:

Uldal Toppsving Tre

Declared unit:

1 pcs

This declaration is based on Product Category Rules:

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

NPCR 014:2019 Part B for Windows and doors

Program operator:

The Norwegian EPD Foundation

Declaration number:

NEPD-12323-12379

Registration number:

NEPD-12323-12379

Issue date:

12.09.2025

Valid to:

12.09.2030

EPD software:

LCAno EPD generator ID: 1116103

General information

Product

Uldal Toppsving Tre

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-12323-12379

This declaration is based on Product Category Rules:

CEN Standard EN 15804:2012+A2:2019 serves as core PCR
NPCR 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 Uldal Toppsving Tre

Declared unit with option:

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

Functional unit:

1 top swing sash window measuring 1.23 m x 1.48 m (ref. EN 14351-1) with an expected service life of 40 yrs. Without alu clad. U-value = 0,79W/m²K.

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.

Third party verifier:

Gaylord K. Booto, Norwegian Institute for Air Research (NILU)

(no signature required)

Owner of the declaration:

Uldal AS
Contact person: Jonas Heilberg
Phone: +47 38 13 71 00
e-mail: uldal@byggma.no

Manufacturer:

Uldal AS

Place of production:

Uldal AS
Mosfjellveien 15
4760 Birkeland, Norway

Management system:

Organisation no:

947895788

Issue date:

12.09.2025

Valid to:

12.09.2030

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. NEPDT138

Developer of EPD: Jonas Heilberg

Reviewer of company-specific input data and EPD: Bente J Birkenes

Approved:



Håkon Hauan, CEO EPD-Norge

Product

Product description:

Uldal window for exterior walls of buildings for domestic and commercial use

Product specification

Top swing sash window

Made by finger-jointed, laminated pine

Made in Norway

Materials	kg	%
Adhesive and sealant	0,04	0,05799
Metal - Aluminium	0,2168	0,3143
Metal - Galvanized Steel	3,80	5,51
Paint, water-based	0,45	0,6524
Plastic - Polyvinyl chloride (PVC)	1,90	2,75
Powder coating	0,001	0,00145
Rubber, synthetic	0,466	0,6756
Triple glazing	41,10	59,59
Wood - Laminated wood	21,00	30,45
Total	68,97	100,00

Packaging	kg	%
Packaging - Plastic straps	0,02	0,36
Packaging - Wood	5,00	90,58
Plastic - Polyethylene (LDPE)	0,50	9,06
Total incl. packaging	74,49	100,00

Technical data:

External measurements are 1230mm width and 1480mm height

Depth of the wood frame is 115mm

1,82m² total product area (0,549 conversion factor to 1m²)

With 3-layer glass and 2 energy coatings (4E+20G+4+20G+E4)

Market:

Made in Norway for the Norwegian market, but with the possibility for export

Reference service life, product

40 Years

Reference service life, building or construction works

60 Years

LCA: Calculation rules

Declared unit:

1 pcs Uldal Toppsving Tre

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:

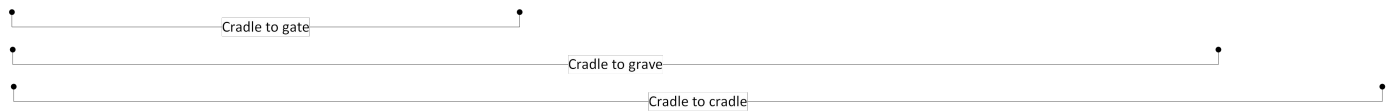
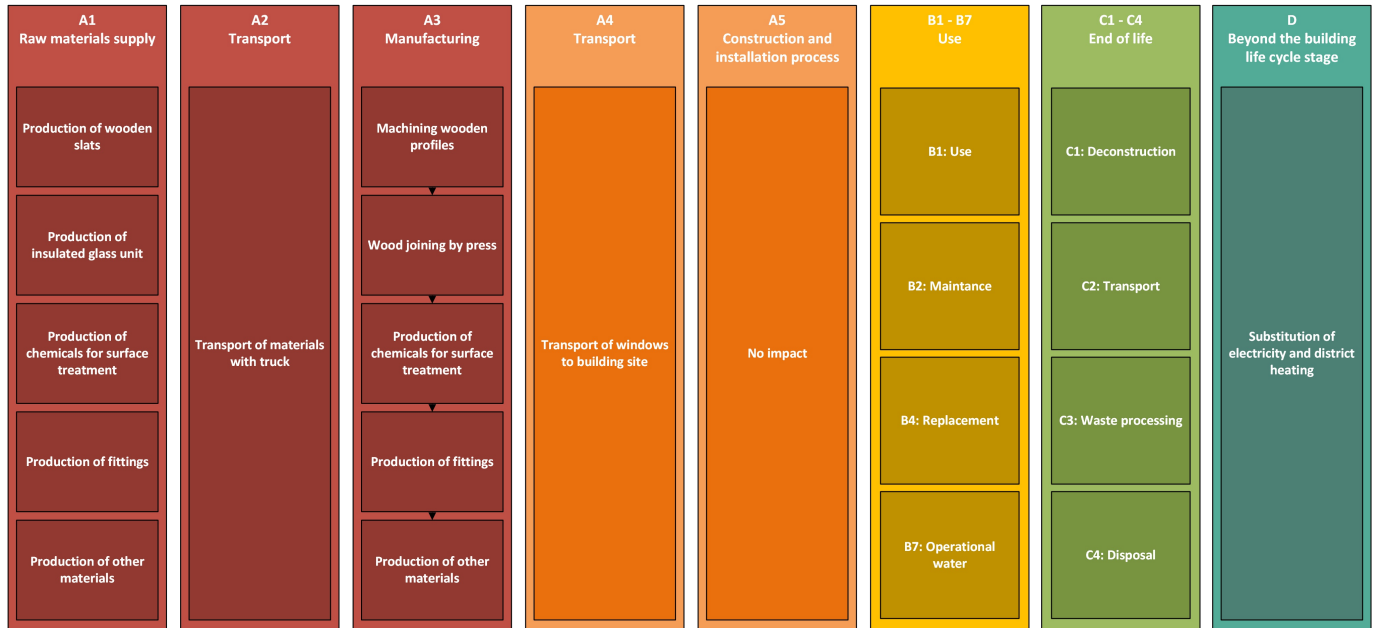
Specific data for the product composition are provided by the manufacturer. The data represent the production of the declared product and were collected for EPD development in the year of study. Background data is based on EPDs according to EN 15804 and different LCA databases. The data quality of the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

Materials	Source	Data quality	Year
Adhesive and sealant	EPD-FEI-20220021-IBG1-EN	EPD	2021
Metal - Aluminium	NEPD-4811-4063-NO	EPD	2021
Metal - Galvanized Steel	Ecoinvent 3.6	Database	2019
Packaging - Plastic straps	ecoinvent 3.6	Database	2019
Packaging - Wood	Modified ecoinvent 3.6	Database	2019
Paint, water-based	ecoinvent 3.6	Database	2019
Plastic - Polyethylene (LDPE)	ecoinvent 3.6	Database	2019
Plastic - Polyvinyl chloride (PVC)	ecoinvent 3.6	Database	2019
Powder coating	ecoinvent 3.6	Database	2019
Rubber, synthetic	ecoinvent 3.6	Database	2019
Triple glazing	Modified S-P-00933	EPD	2019
Wood - Laminated wood	S-P-02154	EPD	2018

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:

Contains Biocides see "FDV document"

LCA: Scenarios and additional technical information

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

SCENARIO

A1:

Packaging is based on 5 products pr. pallet, it is possible to pack denser for projects.

A3:

Production data is weighted without TGU and packaging.

B2:

The maintenance scenario is based on washing with 4,5 l water and 45 ml detergent per year

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) - Europe	36,7 %	300,00	0,043	l/tkm	12,90
Assembly (A5)					
Waste, packaging, PET straps, to average treatment (kg)	Unit	Value			
Waste, packaging, pallet, EUR wooden pallet, reusable, average treatment (kg)	kg	5,00			
Waste, packaging, plastic film (LDPE), to average treatment (kg)	kg	0,50			
Maintenance (B2)					
Soap solution 5%, household detergent (kg) - pure soap	Unit	Value			
Treatment of wastewater (kg)	kg	272,73			
Water, tap water (kg)	kg	270,00			
Lubricant (kg)	kg	0,01			
Replacement (B4)					
Uskiftning av vindu (stk)	Unit	Value			
	Units	0,50			
Transport to waste processing (C2)					
Truck, 16-32 tonnes, EURO 6 (km) - Europe	Capacity utilisation (incl. return) %	Distance (km)	Fuel/Energy Consumption	Unit	Value (Liter/tonne)
	36,7 %	85,00	0,043	l/tkm	3,66
Waste processing (C3)					
Waste treatment per kg Rubber, municipal incineration with fly ash extraction (kg)	Unit	Value			
Waste treatment per kg Rubber, municipal incineration with energy recovery (kg)	kg	0,361			
Waste treatment per kg Polyethylene (PE), incineration with energy recovery (kg)	kg	0,038			
Waste treatment per kg Polyethylene (PE), incineration with energy recovery (kg)	kg	0,0817			
Waste treatment per kg Polyvinylchloride (PVC), incineration with fly ash extraction (kg)	kg	1,81			
Waste treatment per kg Paint, hazardous waste incineration (kg)	kg	0,4285			
Materials to recycling (kg)	kg	16,15			
Waste treatment per kg Wood, incineration with energy recovery (kg)	kg	19,95			
Disposal (C4)					
Landfilling of ashes from incineration of Rubber, process per kg ashes and residues (kg)	Unit	Value			
Waste, rubber, to landfill (kg)	kg	0,01888			
Landfilling of ashes from incineration of Rubber, process per kg ashes and residues (kg)	kg	0,021			
Waste, polyethylene, to landfill (kg)	kg	0,001987			
Waste, polyethylene, to landfill (kg)	kg	0,0043			
Landfilling of ashes from incineration of Polyethylene (PE), process per kg ashes and residues (kg)	kg	0,002879			
Waste, polyvinylchloride, to landfill (kg)	kg	0,095			
Landfilling of ashes from incineration of Polyvinylchloride (PVC), process per kg ashes and residues (kg)	kg	0,2876			
Waste, paint, to landfill (kg)	kg	0,02255			
Landfilling of ashes from incineration of Paint, hazardous waste incineration, process of ashes and residues (kg)	kg	0,01267			
Waste, scrap aluminium, to landfill (kg)	kg	0,01084			
Waste, scrap steel, to landfill (kg) - C4	kg	0,19			
Waste, glass, to landfill (kg)	kg	28,77			
Waste, wood, untreated, to landfill (kg)	kg	1,05			
Landfilling of ashes from incineration of Wood, process per kg ashes and residues (kg)	kg	0,2295			

Benefits and loads beyond the system boundaries (D)	Unit	Value			
Substitution of electricity, in Norway (MJ)	MJ	0,4941			
Substitution of thermal energy, district heating, in Norway (MJ)	MJ	7,47			
Substitution of thermal energy, district heating, in Norway (MJ)	MJ	28,72			
Substitution of electricity, in Norway (MJ)	MJ	1,90			
Substitution of electricity (MJ)	MJ	0,1725			
Substitution of thermal energy, district heating (MJ)	MJ	2,61			
Substitution of thermal energy, district heating, in Norway (MJ)	MJ	2,40			
Substitution of electricity, in Norway (MJ)	MJ	0,1584			
Substitution of electricity, in Norway (MJ)	MJ	0,0003227			
Substitution of thermal energy, district heating, in Norway (MJ)	MJ	0,004883			
Substitution of primary aluminium with net scrap (kg)	kg	0,1975			
Substitution of primary steel with net scrap (kg)	kg	3,61			
Substitution of primary glass with net scrap (kg)	kg	7,21			
Substitution of electricity, in Norway (MJ)	MJ	13,87			
Substitution of thermal energy, district heating, in Norway (MJ)	MJ	209,90			

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 ₂ -eq	7.70E+01	3.65E+00	7.63E+00	9.34E-01	6.58E+01	0	1.04E+00	4.17E+01	4.66E-01	-1.46E+01	
 GWP-fossil	kg CO ₂ -eq	1.17E+02	3.65E+00	4.79E-02	4.47E-01	6.46E+01	0	1.03E+00	6.76E+00	3.75E-01	-1.45E+01	
 GWP-biogenic	kg CO ₂ -eq	-4.09E+01	1.51E-03	7.58E+00	6.28E-02	8.62E-01	0	4.28E-04	3.50E+01	9.12E-02	-8.24E-02	
 GWP-luluc	kg CO ₂ -eq	6.71E-01	1.30E-03	4.88E-06	4.25E-01	3.37E-01	0	3.68E-04	4.56E-04	9.38E-05	-8.72E-02	
 ODP	kg CFC11-eq	8.22E-06	8.27E-07	3.55E-09	6.76E-08	4.81E-06	0	2.34E-07	2.26E-07	1.03E-07	-1.06E-01	
 AP	mol H ⁺ -eq	6.66E-01	1.05E-02	1.05E-04	5.27E-03	3.44E-01	0	2.97E-03	6.62E-03	2.77E-03	-1.20E-01	
 EP-FreshWater	kg P -eq	2.71E-03	2.92E-05	1.65E-07	2.44E-03	1.39E-03	0	8.26E-06	1.72E-05	4.63E-06	-5.70E-04	
 EP-Marine	kg N -eq	1.52E-01	2.08E-03	6.97E-05	9.18E-03	7.89E-02	0	5.88E-04	2.31E-03	1.01E-03	-2.16E-02	
 EP-Terrestrial	mol N -eq	1.78E+00	2.32E-02	4.31E-04	1.65E-02	9.20E-01	0	6.58E-03	2.49E-02	1.06E-02	-2.49E-01	
 POCP	kg NMVOC-eq	4.61E-01	8.90E-03	1.24E-04	2.93E-03	2.41E-01	0	2.52E-03	6.55E-03	3.05E-03	-7.32E-02	
 ADP-minerals&metals ¹	kg Sb-eq	2.76E-03	1.01E-04	3.28E-07	2.56E-05	1.45E-03	0	2.86E-05	9.92E-06	3.38E-06	-7.01E-04	
 ADP-fossil ¹	MJ	1.72E+03	5.52E+01	2.49E-01	5.76E+00	9.07E+02	0	1.56E+01	1.21E+01	7.52E+00	-1.54E+02	
 WDP ¹	m ³	2.40E+03	5.34E+01	7.22E-01	1.02E+02	1.30E+03	0	1.51E+01	1.26E+02	1.31E+01	-1.12E+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-A3	A4	A5	B2	B4	C1	C2	C3	C4	D
 PM	Disease incidence	5.61E-06	2.24E-07	1.57E-09	7.14E-08	3.01E-06	0	6.33E-08	7.59E-08	5.29E-08	-1.94E-06
 IRP ²	kgBq U235 -eq	2.77E+00	2.41E-01	1.05E-03	3.13E-02	1.58E+00	0	6.84E-02	5.24E-02	3.03E-02	-4.03E-01
 ETP-fw ¹	CTUe	1.49E+03	4.09E+01	2.52E-01	1.20E+02	8.96E+02	0	1.16E+01	2.40E+02	1.32E+01	-5.16E+02
 HTP-c ¹	CTUh	1.29E-07	0.00E+00	1.40E-11	1.79E-09	6.67E-08	0	0.00E+00	4.22E-09	2.54E-10	-2.73E-08
 HTP-nc ¹	CTUh	1.17E-06	4.47E-08	6.33E-10	4.52E-08	6.64E-07	0	1.27E-08	9.46E-08	6.09E-09	2.02E-07
 SQP ¹	dimensionless	1.01E+03	3.86E+01	3.41E-01	1.91E+01	5.44E+02	0	1.09E+01	4.78E+00	1.99E+01	-1.79E+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 = 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-A3	A4	A5	B2	B4	C1	C2	C3	C4	D	
 PERE	MJ	7.65E+02	7.90E-01	5.91E-03	4.60E+00	3.84E+02	0	2.24E-01	1.86E+00	1.31E-01	-1.43E+02	
 PERM	MJ	3.90E+02	0.00E+00	-6.94E+01	0.00E+00	0.00E+00	0	0.00E+00	-3.20E+02	0.00E+00	0.00E+00	
 PERT	MJ	1.15E+03	7.90E-01	-6.94E+01	4.60E+00	3.84E+02	0	2.24E-01	-3.19E+02	1.31E-01	-1.43E+02	
 PENRE	MJ	1.65E+03	5.52E+01	2.49E-01	6.32E+00	8.71E+02	0	1.56E+01	1.21E+01	7.52E+00	-1.54E+02	
 PENRM	MJ	1.02E+02	0.00E+00	-2.17E+01	0.00E+00	6.84E-09	0	0.00E+00	-8.07E+01	0.00E+00	0.00E+00	
 PENRT	MJ	1.75E+03	5.52E+01	-2.14E+01	6.32E+00	8.71E+02	0	1.56E+01	-6.86E+01	7.52E+00	-1.54E+02	
 SM	kg	5.30E+00	0.00E+00	0.00E+00	0.00E+00	2.65E+00	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
 RSF	MJ	1.64E+00	2.83E-02	1.60E-04	2.23E-02	8.58E-01	0	8.01E-03	3.72E-02	2.82E-03	1.18E-01	
 NRSF	MJ	9.64E+00	1.01E-01	8.34E-04	2.75E-02	4.93E+00	0	2.86E-02	0.00E+00	9.69E-02	-3.44E+00	
 FW	m ³	3.48E+00	5.90E-03	1.47E-04	7.44E-02	1.81E+00	0	1.67E-03	1.20E-01	8.10E-03	-2.47E-01	

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

*Reading example: 9,0 E-03 = 9,0*10⁻³ = 0,009"






*INA Indicator Not Assessed

End of life - Waste												
Indicator	Unit	A1-A3	A4	A5	B2	B4	C1	C2	C3	C4	D	
	HWD	kg	8.23E-01	2.85E-03	0.00E+00	4.81E-02	5.18E-01	0	8.07E-04	0.00E+00	2.09E-01	-4.10E-02
	NHWD	kg	2.13E+01	2.68E+00	7.70E-01	2.45E-01	2.80E+01	0	7.61E-01	0.00E+00	3.05E+01	-3.11E+00
	RWD	kg	4.17E-02	3.76E-04	0.00E+00	2.74E-05	2.11E-02	0	1.07E-04	0.00E+00	3.22E-06	-4.43E-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	4.75E+00	0.00E+00	2.38E+00	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	MFR	kg	5.95E+00	0.00E+00	2.65E-01	0.00E+00	1.12E+01	0	0.00E+00	1.61E+01	9.41E-05	0.00E+00
	MER	kg	2.34E+00	0.00E+00	2.48E-01	0.00E+00	1.24E+01	0	0.00E+00	2.22E+01	1.95E-06	0.00E+00
	EEE	MJ	1.52E+00	0.00E+00	1.73E-01	0.00E+00	9.06E+00	0	0.00E+00	1.64E+01	1.48E-04	0.00E+00
	EET	MJ	2.29E+01	0.00E+00	2.61E+00	0.00E+00	1.37E+02	0	0.00E+00	2.48E+02	2.23E-03	0.00E+00

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 = $9,0 \cdot 10^{-3} = 0,009$

*INA Indicator Not Assessed

Biogenic Carbon Content		
Indicator	Unit	At the factory gate
Biogenic carbon content in product	kg C	9.54E+00
Biogenic carbon content in accompanying packaging	kg C	2.07E+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, Norway (kWh)	ecoinvent 3.6	24,33	g CO ₂ -eq/kWh

Dangerous substances

The product contains no substances given by the REACH Candidate list.

Indoor environment

No emissions

Additional Environmental Information

Additional environmental impact indicators required in NPCR Part A for construction products											
Indicator	Unit	A1-A3	A4	A5	B2	B4	C1	C2	C3	C4	D
GWPIOBC	kg CO ₂ -eq	1.19E+02	3.65E+00	4.79E-02	9.30E-01	6.53E+01	0	1.04E+00	6.77E+00	4.70E-01	-1.45E+01

GWPIOBC: 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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