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ECO PLATFORM EPD VERIFIED

Owner:	Sunde AS (NO)
No.:	MD-24168-EN
EPD tool:	Sunde EPD Tool (Tool ID: T24003)
Tool version:	Version 1
Issued:	10/21/2024
Valid to:	10/21/2029

3rd PARTY **VERIFIED**

EPD

VERIFIED ENVIRONMENTAL PRODUCT DECLARATION | **ISO 14025 & EN 15804**

Owner of declaration
Sunde AS (NO)

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N-6017 Ålesund
NO 916 416 784 MVA

Programme
EPD Danmark
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- ■ Product EPD
- □ Project EPD
- □ Industri EPD

Declared product:
Sundolitt XPS 300

Number of declared datasets/product variations: [1]
The EPD covers a specific product and is a specific EPD.

This LCA is produced on data from Sundolitt XPS 300 and it can be applied to all XPS types according to the conversion factor found under system boundaries.

Production site
Oslo, Norway: Lurudveien 3, N-2020 Skedsmokorset.

No use of green energy certificates. Residual mix is used.

Product(s) use
Extruded polystyrene (XPS) insulation is commonly used for thermal insulation of buildings, and constructions. XPS is for example used as protection against frost blistering and frost penetration. The product also provides good insulating properties, low moisture absorption, long service life and high compressive strength.

Declared unit
1 m² of insulation material with thickness corresponding to R-value = 1m²K/W within an expected service life for insulation materials.

Year of energy data (A3)
2022

Year of production site data (A3)
2024

Declaration developed using [Sunde EPD Tool, Tool ID: T24003, Version 1, Developed by COWI A/S]

Data collection, processing and registration done by: Frank Wilhelmsen
Reviewed by: Lars Valentin

☒ internal ☐ external

Reviewer (internal control):

[Lars Valentin]

Issued: 10/21/2024

Valid to: 10/21/2029

Basis of calculation
This EPD is developed in accordance with the European standard EN 15804+A2.

Comparability
EPDs of construction products may not be comparable if they do not comply with the requirements in EN 15804. EPD data may not be comparable if the datasets used are not developed in accordance with EN 15804 and if the background systems are not based on the same database.

Validity
This EPD has been verified in accordance with ISO 14025 and is valid for 5 years from the date of issue.

Use
The intended use of an EPD is to communicate scientifically based environmental information for construction products, for the purpose of assessing the environmental performance of buildings.

EPD type
☐Cradle-to-gate with modules C1-C4 and D
☒Cradle-to-gate with options, modules C1-C4 and D
☐Cradle-to-grave and module D
☐Cradle-to-gate
☐Cradle-to-gate with options

CEN standard EN 15804 serves as the core PCR

Independent verification of the tool on which declaration and data is based, according to EN ISO 14025:2010

☐ internal ☒ external

Third party verifier:

David Althoff Palm

Martha Katrine Sørensen
EPD Danmark

Life cycle stages and modules (MND = module not declared)																
Product			Construction process		Use							End of life				Beyond the system boundary
Raw material supply	Transport	Manufacturing	Transport	Installation process	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Re-use, recovery and 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	MND	MND	MND	MND	MND	MND	X	X	X	X	X

	Thickness mm						
	33	**50**	**70**	**80**	**100**	**120**	**150**
XPS 200	0,97	1,47	2,05	2,35	2,94	3,52	4,40
XPS 250	0,99	1,51	2,11	2,41	3,01	3,61	4,52
XPS 300	**1,00**	1,52	2,12	2,42	3,03	3,64	4,55
XPS 400	1,05	1,60	2,24	2,55	3,19	3,83	4,79
XPS 500	1,16	1,75	2,45	2,80	3,50	4,20	5,26
XPS 700	1,34	2,04	2,85	3,26	4,07	4,89	6,11

Product information

Product description

The main product components are shown in the tables below.

Material	Weight-% of declared product
XPS polystyrene beads, from recycled PS	0 %
XPS polystyrene beads, from primary material	100 %
Geotextile	0 %
PP plastic	0 %
Fiber cement boards	0 %
Total weight of product	100 %

Product packaging

The composition of the sales- and transport packaging of the product is shown in the table below.

Material	Weight-% of packaging
Cardboard	0 %
LDPE foil	78 %
Wooden pallet	4 %
Plastic pallet	0 %
EPS bars	18 %
Tape (PE)	0 %
Label	0 %
Sheets PE	0 %
Sum	100 %

Representativity

This declaration, including data collection and the modelled foreground system including results, represents the production of Sundolitt XPS 300 on the production site located in Norway. Product specific data are based on average values collected in the period 2024. Background data are based on GaBi Professional 2023 and Ecoinvent 3.9 and are less than 5 years old. Generally, the used background datasets are of high quality, and the majority of the datasets are only a couple of years old.

Hazardous substances

Sundolitt XPS 300 do not contain substances listed in the "Candidate List" of Substances of Very High Concern for authorization" (http://echa.europa.eu/candidate-list-table). Absence of these substances is declared by Sunde AS (NO). The products do not contain any fire retardants.

Essential characteristics (CE)

XPS is commonly used for thermal insulation of buildings and constructions. XPS is for example used as protection against frost blistering and frost penetration. XPS is a polymer foam and consists mostly of air, and therefore the product provides good insulating properties at a low weight. The product also provides low moisture absorption, long service life and high compressive strength. XPS is produced by extruding polystyrene granulate, mixed with additives and foaming agents to produce the foam mass. The specific density of this product can be found in the section "Declared unit".

The declared products are covered by harmonized technical specification DS/EN13163.

Further technical information can be obtained by contacting Manufacture or on their website:

https://www.sundolitt.no

Reference Service Life (RSL)

The reference service life of insulation products varies depending on where in the building the products are used. The service life tables from BUILD[1] can be used to determine the reference service life of insulation products in various building contexts.

Picture of product

LCA background

Declared unit

The LCI and LCIA results in this EPD relates to 1 m² of insulation material with thickness corresponding to R-value = 1m²K/W within an expected service life for insulation materials.

Name	Value
Declared unit	1 m² of insulation material with thickness corresponding to R-value = 1m²K/W
Density [kg/m³ insulation material]	32
Thickness [mm]	33
Mass [kg/DU]	1,06
Conversion factor to 1 kg.	0,943

Functional unit

Not defined.

PCR

This EPD is developed according to the core rules for the product category of construction products in EN 15804+A2 and the complementary Product Category Rules (c-PCR) EN 16783:2024.

Guarantee of Origin – certificates

Foreground system:

The product is produced using green energy certificates from:
No use of green energy certificates. Residual mix is used.

The electricity is used for the manufacturing at the production site. No other energy processed are included in the foreground.

Background system:

Both upstream processes are modelled using residual mix. Downstream processes are modelled using grid mix.

System boundaries

This EPD is based on a cradle-to-gate with options LCA, in which 100 weight-% has been accounted for.

The general rules for the exclusion of inputs and outputs follows the requirements in EN 15804, 6.3.5, where the total of neglected input flows per module shall be a maximum of 5 % of energy usage and mass and 1 % of energy usage and mass for unit processes. No known flows are emitted according to the EN15804 cut of criteria.

Product stage (A1-A3) includes:

A1 – Extraction and processing of raw materials

A2 – Transport to the production site

A3 – Manufacturing processes

The product stage comprises the acquisition of all raw materials, products and energy, transport to the production site, packaging, and waste processing up to the "end-of-waste" state or final disposal.

The XPS is manufactured by an extruding process that involves two stages. The first stage, involves heating, mixing and gas injection. The polystyrene is in crystal form and must be melted. The foaming agents CO2 and ethanol are then injected into the melted polystyrene at high pressure, and the full process creates the closed cell structure of the end product.

In the second stage of extrusion, the 'melt' is cooled using chilled water. Careful control ensures it is cooled to the correct temperature and pressure. The cooled extruded foam then enters a vacuum chamber, where the foam begins to expand and the foaming agents are released. Calibrating bars control the spread of the foam to give the required thickness and width for the final product. Hereafter the product is cut and profiled into insulation boards in desired dimensions.

The CO2 and ethanol content in the XPS products is highest right after production, where after it continues to decrease. After approximately one month almost all the CO2 and ethanol has been emitted from the products. The release of CO2 and ethanol are reported in module A3 since it relates to the production.

During the cutting stage, any offcuts are recycled intro the production line and no solid waste is gatered from the production of XPS. However, some solid waste is produced from the raw material packaging, e.g., cardboard.

Construction stage (A4-A5) includes:

The Sundolitt XPS 300 is transported 200 km with a Medium truck (max 115 m³, max 32 ton) to the construction site.

The transport of Packaging waste is transported 60 km with a Diesel truck, with a payload of max 32 ton, euronorm 6 (GLO).

End of Life (C1-C4) includes:

The Sundolitt XPS 300 product is dismantled manually, thus, no environmental impacts are associated with module C1. In both scenario 1 and scenario 2, the dismantled product is transported 60 km to a waste handling facility by a EURO 6 diesel truck.

In scenario 1, the dismantled insulation material reaches its end-of-waste stage at the recycling and sorting facility and it is therefore no longer viewed as waste. Material credits for recycling of polystyrene is included in module D. In scenario 2, incineration of the dismantled insulation product is included in module C4. Energy credits related to energy recovery from the incineration is included in module D.

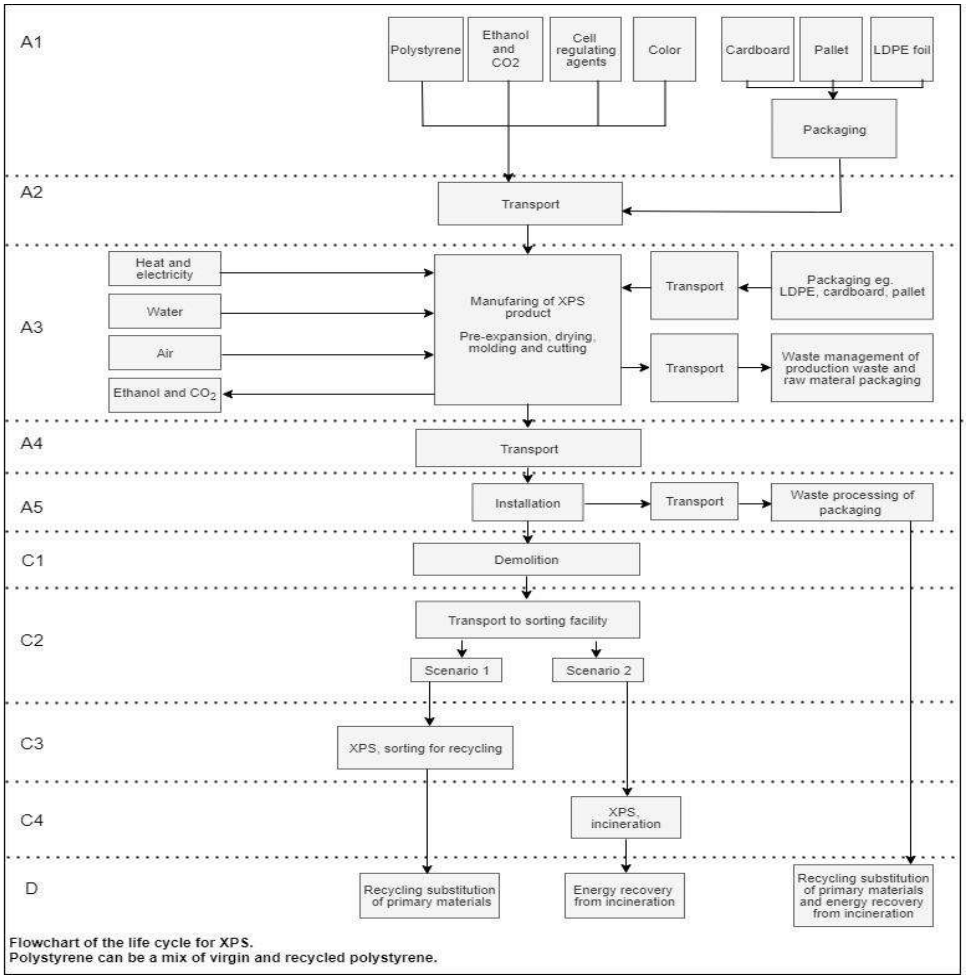
Re-use, recovery and recycling potential (D) includes:

In Scenario 1, material credits related to recycling of polystyrene are included in module D.

In Scenario 2, energy credits related to incineration of polystyrene are included in module D.

The packaging materials reach the end-of-waste stage in module A5, and the benefits from recycling and incineration of the packaging materials are included in module D.

Flowdiagram



Flowchart of the life cycle for XPS.
Polystyrene can be a mix of virgin and recycled polystyrene.

LCA results

ENVIRONMENTAL IMPACTS PER 1 m² of insulation material with thickness corresponding to R-value = 1m²K/W														
									Scenario 1			Scenario 2		
Parameter	**Unit**	**A1**	**A2**	**A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**	**C3**	**C4**	**D**
GWP-total	kg CO2-eq.	2,29E+00	6,35E-02	6,70E-01	3,53E-03	5,23E-02	0,00E+00	1,03E-03	9,42E-03	0,00E+00	-2,23E+00	0,00E+00	3,57E+00	-1,33E+00
GWP-fossil	kg CO2-eq.	2,29E+00	6,31E-02	6,71E-01	3,50E-03	5,06E-02	0,00E+00	1,02E-03	9,42E-03	0,00E+00	-2,23E+00	0,00E+00	3,57E+00	-1,33E+00
GWP-biogenic	kg CO2-eq.	0,00E+00	0,00E+00	-1,69E-03	0,00E+00	1,69E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-2,82E-05	0,00E+00	0,00E+00	-2,82E-05
GWP-luluc	kg CO2-eq.	1,77E-04	4,73E-04	8,43E-05	3,19E-05	2,65E-06	0,00E+00	9,34E-06	2,24E-09	0,00E+00	-1,39E-04	0,00E+00	3,24E-06	-1,52E-04
ODP	kg CFC11-eq.	1,17E-09	7,39E-15	8,62E-09	4,48E-16	8,06E-15	0,00E+00	1,31E-16	1,43E-20	0,00E+00	-4,21E-12	0,00E+00	1,57E-13	-1,05E-11
AP	kg H+eq.	3,33E-03	4,33E-04	1,21E-03	5,08E-06	6,11E-06	0,00E+00	1,49E-06	2,16E-18	0,00E+00	-3,16E-03	0,00E+00	3,10E-04	-2,63E-03
EP-freshwater	kg P-eq.	2,56E-05	1,89E-07	1,20E-04	1,26E-08	2,93E-09	0,00E+00	3,69E-09	2,79E-12	0,00E+00	-3,19E-06	0,00E+00	3,72E-08	-5,90E-06
EP-marine	kg N-eq.	9,34E-04	1,12E-04	2,88E-04	1,84E-06	1,62E-06	0,00E+00	5,39E-07	2,35E-13	0,00E+00	-8,97E-04	0,00E+00	6,80E-05	-7,34E-04
EP-terrestrial	kg N-eq.	9,97E-03	1,25E-03	2,96E-03	2,18E-05	2,80E-05	0,00E+00	6,38E-06	4,75E-09	0,00E+00	-9,67E-03	0,00E+00	1,47E-03	-7,59E-03
POCP	kg NMVOC-eq	3,47E-03	3,11E-04	8,87E-04	4,45E-06	4,64E-06	0,00E+00	1,30E-06	2,52E-08	0,00E+00	-3,35E-03	0,00E+00	2,00E-04	-1,93E-03
ADPm1	kg Sb-eq	5,32E-07	3,46E-09	4,59E-07	2,27E-10	8,58E-11	0,00E+00	6,64E-11	5,66E-13	0,00E+00	-8,03E-08	0,00E+00	1,46E-09	-1,19E-07
ADPf1	MJ	7,84E+01	8,29E-01	9,91E+00	4,70E-02	2,14E-02	0,00E+00	1,37E-02	7,59E-11	0,00E+00	-7,71E+01	0,00E+00	3,94E-01	-2,06E+01
WDP1	m3	1,87E-01	6,35E-04	2,52E-01	4,16E-05	4,62E-03	0,00E+00	1,22E-05	2,02E-04	0,00E+00	-1,54E-01	0,00E+00	2,90E-01	-2,00E-01
Caption	GWP-total = Globale 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 = Ozone Depletion; AP = Acidification; EP-freshwater = Eutrophication – aquatic freshwater; EP-marine = Eutrophication – aquatic marine; EP-terrestrial = Eutrophication – terrestrial; POCP = Photochemical zone formation; ADPm = Abiotic Depletion Potential – minerals and metals; ADPf = Abiotic Depletion Potential – fossil fuels; WDP = Water Depletion Potential													
	The numbers are declared in scientific notation, e.g., 1.95E+02. This number can also be written as: 1.95*102 or 195, while 1.12E-11 is the same as 1.12*10-11 or 0.0000000000112.													
Disclaimer	[1] The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.													

ADDITIONAL ENVIRONMENTAL IMPACTS PER 1 m² of insulation material with thickness corresponding to R-value = 1m²K/W														
									Scenario 1			Scenario 2		
Parameter	**Unit**	**A1**	**A2**	**A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**	**C3**	**C4**	**D**
PM	Disease incidence	2,14E-08	7,07E-09	5,10E-09	4,38E-11	6,67E-11	0,00E+00	1,28E-11	0,00E+00	0,00E+00	-2,03E-08	0,00E+00	1,80E-09	-2,13E-08
IRP2	kBq U235 eq.	4,76E-02	2,17E-04	1,44E-01	1,32E-05	9,82E-05	0,00E+00	3,85E-06	2,02E-13	0,00E+00	-3,72E-02	0,00E+00	3,84E-03	-3,12E-01
ETP-fw1	CTUe	4,39E+01	5,87E-01	6,54E+00	3,33E-02	1,31E-02	0,00E+00	9,75E-03	1,34E-04	0,00E+00	-4,31E+01	0,00E+00	1,80E-01	-7,55E+00
HTP-c1	CTUh	9,35E-10	1,18E-11	1,16E-10	6,82E-13	7,01E-13	0,00E+00	2,00E-13	1,37E-13	0,00E+00	-9,02E-10	0,00E+00	1,98E-11	-2,76E-10
HTP-nc1	CTUh	3,92E-08	6,18E-10	4,77E-09	3,64E-11	6,14E-11	0,00E+00	1,06E-11	7,91E-22	0,00E+00	-3,78E-08	0,00E+00	6,05E-10	-1,07E-08
SQP1	-	1,78E+00	2,91E-01	1,59E+00	1,96E-02	5,73E-03	0,00E+00	5,74E-03	8,46E-12	0,00E+00	-1,78E+00	0,00E+00	1,24E-01	-2,11E+01
Caption	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)													
	The numbers are declared in scientific notation, e.g., 1.95E+02. This number can also be written as: 1.95*102 or 195, while 1.12E-11 is the same as 1.12*10-11 or 0.0000000000112.													
Disclaimers	[1] The results of this environmental 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 PER 1 m² of insulation material with thickness corresponding to R-value = 1m²K/W														
									Scenario 1			Scenario 2		
Parameter	**Unit**	**A1**	**A2**	**A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**	**C3**	**C4**	**D**
PERE	MJ	2,35E+00	5,12E-02	8,07E-01	3,42E-03	4,66E-03	0,00E+00	9,99E-04	1,40E-03	0,00E+00	-2,30E+00	0,00E+00	1,00E-01	-1,28E+01
PERM	MJ	0,00E+00	0,00E+00	2,66E-03	0,00E+00	-2,66E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	MJ	2,35E+00	5,12E-02	8,10E-01	3,42E-03	2,00E-03	0,00E+00	9,99E-04	1,40E-03	0,00E+00	-2,30E+00	0,00E+00	1,00E-01	-1,28E+01
PENRE	MJ	7,85E+01	8,32E-01	9,91E+00	4,71E-02	2,14E-02	0,00E+00	1,38E-02	5,23E-03	0,00E+00	-7,72E+01	0,00E+00	3,94E-01	-2,06E+01
PENRM	MJ	4,30E+01	0,00E+00	-1,81E+00	0,00E+00	-1,07E+00	0,00E+00	0,00E+00	-4,01E+01	0,00E+00	0,00E+00	0,00E+00	-4,01E+01	0,00E+00
PENRT	MJ	1,22E+02	8,32E-01	8,10E+00	4,71E-02	-1,05E+00	0,00E+00	1,38E-02	-4,01E+01	0,00E+00	-7,72E+01	0,00E+00	-3,97E+01	-2,06E+01
SM	kg	0,00E+00	0,00E+00	1,03E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
RSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NRSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	m3	1,21E-02	5,62E-05	7,13E-03	3,74E-06	1,10E-04	0,00E+00	1,09E-06	0,00E+00	0,00E+00	-1,14E-02	0,00E+00	6,79E-03	-7,82E-03
Caption	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 material; RSF = Use of renewable secondary fuels; NRSF = Use of non renewable secondary fuels; FW = Net use of fresh water													
	The numbers are declared in scientific notation, e.g., 1.95E+02. This number can also be written as: 1.95*102 or 195, while 1.12E-11 is the same as 1.12*10-11 or 0.0000000000112.													

WASTE CATEGORIES AND OUTPUT FLOWS PER1 m² of insulation material with thickness corresponding to R-value = 1m²K/W														
									Scenario 1			Scenario 2		
Parameter	**Unit**	**A1**	**A2**	**A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**	**C3**	**C4**	**D**
HWD	kg	5,27E-09	2,58E-12	1,37E-10	1,46E-13	1,76E-13	0,00E+00	4,27E-14	0,00E+00	0,00E+00	-5,22E-09	0,00E+00	8,90E-12	-8,65E-10
NHWD	kg	1,91E-02	1,19E-04	1,15E-02	7,18E-06	3,52E-03	0,00E+00	2,10E-06	1,22E-16	0,00E+00	-1,94E-02	0,00E+00	1,29E-02	-3,89E-02
RWD	kg	2,91E-04	1,46E-06	1,76E-05	8,82E-08	6,99E-07	0,00E+00	2,58E-08	9,00E-09	0,00E+00	-2,98E-04	0,00E+00	2,37E-05	-1,88E-03
CRU	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MFR	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	8,29E-03	0,00E+00	0,00E+00	1,06E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MER	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
EEE	MJ	0,00E+00	0,00E+00	3,74E-01	0,00E+00	9,14E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,42E+00	0,00E+00
EET	MJ	0,00E+00	0,00E+00	6,66E-01	0,00E+00	1,63E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,14E+01	0,00E+00
Caption	HWD = Hazardous waste disposed; NHWD = Non hazardous waste disposed; RWD = Radioactive waste disposed; CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported electrical energy; EET = Exported thermal energy													
	The numbers are declared in scientific notation, e.g., 1.95E+02. This number can also be written as: 1.95*102 or 195, while 1.12E-11 is the same as 1.12*10-11 or 0.0000000000112.													

BIOGENIC CARBON CONTENT PER 1 m² of insulation material with thickness corresponding to R-value = 1m²K/W		
Parameter	**Unit**	**At the factory gate**
Biogenic carbon content in product	kg C	0,00E+00
Biogenic carbon centent in accompanying packagaing	kg C	4,61E-04
Note: 1 kg biogenic carbon is equivalent to 44/12 kg of CO2		

Additional information

LCA interpretation

The raw material, polystyrene and the energy consumtion related to the A3 production is the main contributor to the environmental impacts. However, for scenario two where the XPS is sent for incineration, this contributes most to the impact category GWP-total. For both scenarios, module A1 account for the maximum contribution to the majority of the 19 impact categories.

Technical information on scenarios

Transport to the building site (A4)

Scenario information	Value	Unit
A4 Transport Type, 1st means of transport	Medium truck (max 115 m³, max 32 ton)	-
Transport Distance, 1st means of transport	200	km
Capacity utilisation, 1st means of transport	12	%
A4 Transport Type, 2nd means of transport	-	-
Transport Distance, 2nd means of transport	-	km
Capacity utilisation, 2nd means of transport	-	%
Gross density of products transported (incl. packaging)	1,1	kg/DU

Installation of the product in the building (A5)

Scenario information	Value	Unit
Ancillary materials	-	kg
Water use	-	m3
Other resources use	-	kg
Energy type and consumption	-	kWh
Waste handling of packaging	0,03	kg
Direct emissions to air, soil or water	-	kg

End of life (C1-C4)

Processes	**Scenario** 1	**Scenario** 2
Collected separately [kg]	-	-
Collected with mixed waste [kg]	-	-
For reuse [kg]	-	-
For recycling [kg]	1,1	-
For energy recovery from incineration [kg]	0	1,1
For final disposal, fiber cement [kg]		
Assumptions for scenario development	See scenario descriptions.	See scenario descriptions.

Re-use, recovery and recycling potential (D)

Processes	**Scenario** 1	**Scenario** 2	Unit
Recycling from A5 [kg]	0,01	0,01	kg
Energy recovery from A5 [MJ]	0,25	0,25	MJ
Recycling from C3 [kg]	1,06	-	kg
Energy recovery from C4 [MJ]	0,00	17,87	MJ

Indoor air

The EPD does not give information on release of dangerous substances to indoor air because the horizontal standards on the relevant measurements are not available. Read more in EN15804+A2 chapter 7.4.1.

Soil and water

The EPD does not give information on release of dangerous substances to soil and water because the horizontal standards on the relevant measurements are not available. Read more in EN15804+A2 chapter 7.4.2.

References

General program instructions
Version 2.0
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