

Owner: LivingBetter A/S
No.: MD-25058-EN
Issued: 14-05-2025
Valid to: 14-05-2030

3rd PARTY **VERIFIED**

EPD

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



Owner of declaration

LivingBetter A/S
Borupvej 1C
DK-7330 Brande
CVR 32317286
<https://livingbetter.dk/>


Issued:

14-05-2025

Valid to:

14-05-2030

Programme

EPD Danmark
www.epddanmark.dk



☐ Industry EPD

☒ Product EPD

☒ Product specific

☐ Average

☐ Worst Case

Declared product(s)

Ventilation window (CWT), top guided, wood/aluminium

Number of declared datasets/product variations: 1

Production site

LivingBetter A/S
Borupvej 1C
DK-7330 Brande

Vindunor A/S
Ålborgvej 86,
DK-9800 Hjørring

Use of Guarantees of Origin

☐ No certificates used

☒ Electricity covered by GoO

☐ Biogas covered by GoO

Declared/ functional unit

1 m²

Year of production site data (A3)

2024

EPD version

1

Basis of calculation

This EPD is developed and verified 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 declaration and data, according to EN ISO 14025

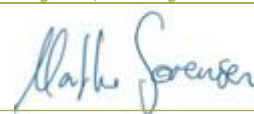
☐ internal

☒ external

Third party verifier:



Guangli Du, Aalborg University



*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	X	X	X	X	X	X	X	X	X	X	X	X

Product information

Product description

The LivingBetter ventilation window differs from the 3-layer glass window, as it consists of a 6mm internal glass pane and a 2-layer energy glass pane facing the exterior, in which valves are milled discreetly into the frame/sash of the gap between the 6mm internal glass pane and the 2-layer energy window glass facing the exterior. The air valves have been developed and tested in Denmark so that they specifically fit the Danish building regulations and adapt themselves to the severe Danish weather conditions. The fresh air enters through the air valves in the bottom frame of the outer frame. From here, the air is preheated as it moves up between the inner glass pane and the outer 2-layer glass. The gap between the inner glass pane and the outer 2-layer glass is called the ventilation chamber. A set of valves which automatically regulate the air flow into the building are installed in the upper frame. The valves do not require electricity. They are controlled by wax thermostats - called actuators - which adjust themselves according to the outside temperature and the temperature in the ventilation chamber. They expand in heat and contract in cold and thereby open and close the valves depending on the outside temperature and the temperature in the ventilation chamber. The thermostat is sealed with a membrane, so it requires no maintenance. The ventilation window is available in various designs, including fixed, opening, top-hinged, and side-hinged configurations.

The main product components are shown in the table below.

Material	Weight-% of declared product
Glass	55
Wood	32
Aluminium	6
Metals	4
Plastic	1
Other	2
Total	100

Product packaging:

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

Material	Weight-% of packaging
LDPE film	2
Galv. steel screws	<1
Wooden pallet	56
OSB wooden board	21
Plywood	21
Total	100

Representativity

This declaration, including data collection and the modeled foreground system including results, represents the production of LivingBetter ventilation window in Vindunor A/S' production site located in Hjørring, Denmark. The product structure is based on a standard window size of 1.23 m x 1.48 m and is scaled to the declared unit 1 m².

Product specific data are based on average values collected in the period 2024-2025. Background data are based on secondary datasets LCI databases from LCA Managed Content (formerly GaBi) and Ecoinvent databases. In addition, data for the glass, wooden profiles, aluminum profiles, fittings and adhesives are from suppliers' EPDs in accordance with EN 15804+A2.

Generally, the background data sets used are of high quality and less than 10 years old.

Hazardous substances

The LivingBetter ventilation window does not contain substances listed on the "Candidate List of Substances of Very High Concern for authorisation" (<http://echa.europa.eu/candidate-list-table>).

Product(s) use

The LivingBetter ventilation window can be installed into walls of buildings to allow natural light entering the building. Additionally, the ventilation system of the window provides continuous ventilation while enhancing indoor air quality. Lastly, the ventilation system offers benefits such as noise reduction, prevention of condensation, and improved indoor climate without the need for installing a mechanical

balanced ventilation system. For more details see:

<https://livingbetter.as/ventilation-window/>

Essential characteristics

Technical information can be obtained by contacting the manufacturer or on the manufacturer's website:

<https://livingbetter.as/ventilation-window/>

Reference Service Life (RSL)

The reference service life (RSL) of the product is set to 60 years according to the main product equivalent to "Windows, outer walls" in the lifetime table of [LCABuild](#) relating to aluminium and wood windows.

Picture of product(s)



LCA background

Declared unit

The LCI and LCIA results in this EPD relate to 1 m² of ventilation window according to a standard window size of 1.23 m x 1.48 m. The area density and conversion factor to 1 kg are given in the table below.

Name	Value	Unit
Declared unit	1	m ²
Area density	48,9	kg/m ²
Conversion factor to 1 kg	0,020	-

Functional unit

Not defined

PCR

This EPD is developed according to the core rules for the product category of construction products in EN 15804, and EN 17213:2020.

Energy modelling principles

Foreground system:

The product is produced using electricity with GO from solar cells in the production in Hjørring. Electricity used in the remaining life cycle phases is modeled with residual electricity mix corresponding to the relevant geography.

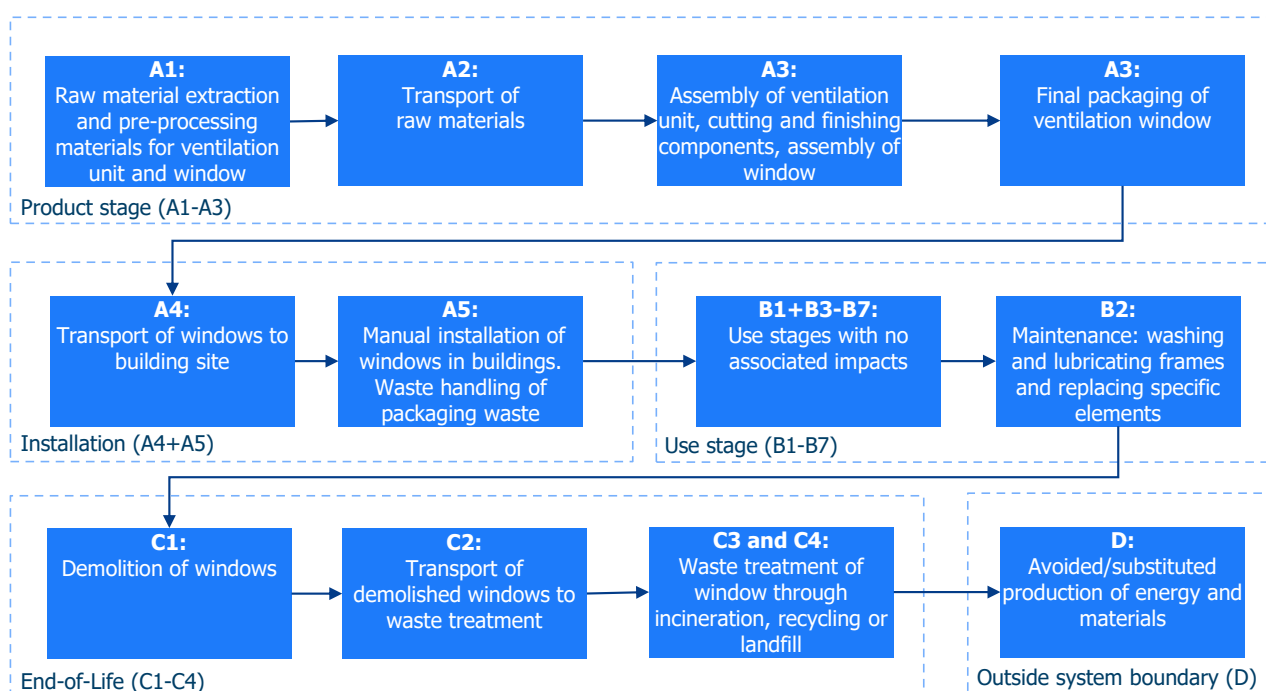
Information about the energy mix in the foreground system:

Energy mix	EF	Unit
Electricity from photovoltaic	0,03	kg CO ₂ e/kWh
Residual grid mix	0,58	kg CO ₂ e/kWh

Background system:

Upstream and downstream processes are modelled with the electricity sources on which the used datasets are based. This will most often be based on a national average electricity mix. Any open electricity inputs in processes were adjusted to residual electricity mix considering the relevant geography.

Flowdiagram



System boundary

This EPD is based on a cradle-to-grave LCA, in which all relevant and crucial processes are included and 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.

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 LCA results are declared in aggregated form for the product stage, which means that the sub-modules A1, A2 and A3 are declared as one module A1-A3.

The valves and ventilation unit are produced by LivingBetter A/S in their production site in Brande. Afterwards the valves and ventilation unit are sent to Vindunor A/S in Hjørring where the window is produced and the ventilation unit installed in the frame of the window. In Hjørring, the production includes shortening of profiles, drilling of holes, glueing, painting, assembling the finished windows, as well as packaging and stacking on pallets. Economic allocation has been used in connection with A3 activities such as energy, water and generation of waste. Allocation has been used uniformly on A3 activities.

Construction process stage (A4-A5) includes:

The ventilation windows are transported by road freight (small truck) from Vindunor A/S production site to installation site. The distribution scenario assumes small batches through direct sales with a transportation distance of 200 km (return trips included).

The installation (A5) is expected to be done manually (<2.5 m height) with few auxiliary tools.

The treatment and disposal of sales packaging takes place in this phase.

Use stage (B1-B7) includes:

No emissions occur during the use (B1) of the ventilation window since it is operated manually.

The maintenance (B2) of the ventilation window includes washing and lubrication, painting, and replacement of the IGU, steel fittings and sealants due to wear. LivingBetter A/S assesses that for parts included in the ventilation window and are not directly exposed to the outdoor environment there is no need for replacement.

No repair (B3), replacement (B4), or refurbishment (B5) of the window during the reference service life is considered. LivingBetter A/S has no direct influence on the renovation process and the type of building, as well as its future plans, are unknown.

No operational energy nor water consumption (B6-B7) associated with the use phase are considered (declared product does not contain any electrical devices). Additionally, no water consumption is influenced by the product related to the operation of the building.

End of Life (C1-C4) includes:

When the buildings are demolished or renovated, the window will be dismantled. This process is assumed to be carried out manually with auxiliary tools, such as an electric drill.

The subsequent waste treatment for the window follows the waste scenarios in EN 17213:2020, Annex B.3. Waste sorting of waste fractions after window dismantling has been included, as well as average transport distances for waste treatment.

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

For the recycling process, an efficiency of max. 95% has been assumed and avoided materials are only included for primary materials.

For the incineration process, energy recovery has been included for the incineration of materials that displaces the average Danish electricity mix and heat.

LCA results

ENVIRONMENTAL IMPACTS PER 1 m ²												
Parameter	Unit	A1-A3	A4	A5	B1	B2	B3-B7	C1	C2	C3	C4	D
GWP-total	[kg CO ₂ eq.]	2,93E+01	4,17E+00	1,95E+01	0,00E+00	4,26E+01	0,00E+00	7,02E-04	1,60E+00	3,56E+01	1,75E+00	-3,96E+01
GWP-fossil	[kg CO ₂ eq.]	7,16E+01	4,14E+00	5,17E+00	0,00E+00	4,24E+01	0,00E+00	6,97E-04	1,59E+00	8,15E+00	3,42E-01	-3,96E+01
GWP-biogenic	[kg CO ₂ eq.]	-4,26E+01	-3,84E-02	1,43E+01	0,00E+00	1,42E-01	0,00E+00	5,06E-06	-2,22E-02	2,74E+01	1,41E+00	-6,65E-02
GWP-luluc	[kg CO ₂ eq.]	2,50E-01	6,90E-02	6,01E-03	0,00E+00	6,83E-02	0,00E+00	2,56E-07	2,64E-02	2,07E-03	1,80E-03	-6,86E-03
ODP	[kg CFC 11 eq.]	2,14E-06	6,05E-13	1,74E-12	0,00E+00	6,60E-07	0,00E+00	2,17E-14	2,31E-13	-7,66E-09	8,78E-13	-1,13E-10
AP	[mol H ⁺ eq.]	3,83E-01	5,75E-03	1,19E-02	0,00E+00	2,06E-01	0,00E+00	1,39E-06	9,12E-03	1,45E-02	2,37E-03	-9,62E-02
EP-freshwater	[kg P eq.]	3,88E-03	1,75E-05	2,05E-06	0,00E+00	1,20E-03	0,00E+00	6,42E-09	6,71E-06	-1,61E-05	3,72E-06	-3,79E-05
EP-marine	[kg N eq.]	1,03E-01	2,09E-03	5,37E-03	0,00E+00	4,29E-02	0,00E+00	4,47E-07	4,44E-03	6,54E-03	6,66E-04	-2,90E-02
EP-terrestrial	[mol N eq.]	1,01E+00	2,49E-02	6,45E-02	0,00E+00	5,00E-01	0,00E+00	4,20E-06	4,94E-02	7,94E-02	7,06E-03	-3,23E-01
POCP	[kg NMVOC eq.]	2,57E-01	5,69E-03	1,31E-02	0,00E+00	1,23E-01	0,00E+00	1,03E-06	8,57E-03	1,68E-02	2,43E-03	-6,76E-02
ADPm1	[kg Sb eq.]	1,61E-03	3,58E-07	6,00E-08	0,00E+00	1,08E-03	0,00E+00	3,74E-10	1,37E-07	-1,59E-08	2,08E-08	-4,44E-06
ADPf1	[MJ]	1,14E+03	5,41E+01	9,43E+00	0,00E+00	6,30E+02	0,00E+00	8,88E-03	2,07E+01	9,16E+00	4,58E+00	-5,67E+02
WDP1	[m3 world eq. deprived]	3,93E+03	6,36E-02	1,99E+00	0,00E+00	4,00E+00	0,00E+00	1,05E-04	2,43E-02	2,94E+00	3,92E-02	-1,73E+00
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, fx 1,95E+02. This number can also be written as: 1,95*10 ² 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 experience with the indicator.											

ADDITIONAL ENVIRONMENTAL IMPACTS PER 1 m ²												
Parameter	Unit	A1-A3	A4	A5	B1	B2	B3-B7	C1	C2	C3	C4	D
PM	[Disease incidence]	7,62E-06	5,72E-08	4,29E-08	0,00E+00	9,69E-07	0,00E+00	1,18E-11	5,01E-08	5,90E-08	2,87E-08	-8,05E-07
IRP2	[kBq U235 eq.]	3,83E+00	1,43E-02	9,41E-03	0,00E+00	7,43E-01	0,00E+00	1,07E-04	5,47E-03	1,06E-02	6,05E-03	-1,07E+00
ETP-fw1	[CTUe]	1,07E+03	4,02E+01	4,46E+00	0,00E+00	5,29E+02	0,00E+00	2,52E-03	1,54E+01	3,36E+00	2,58E+00	-1,64E+02
HTP-c1	[CTUh]	1,89E-07	8,11E-10	3,42E-10	0,00E+00	6,19E-08	0,00E+00	6,00E-13	3,10E-10	4,11E-10	6,61E-11	-1,46E-08
HTP-nc1	[CTUh]	2,63E-06	3,64E-08	2,20E-08	0,00E+00	8,97E-07	0,00E+00	3,75E-12	1,39E-08	2,83E-08	4,14E-09	-1,92E-07
SQP1	-	7,97E+03	2,66E+01	3,90E+00	0,00E+00	1,17E+02	0,00E+00	1,96E-02	1,02E+01	2,19E+00	1,12E+00	-1,00E+02
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, fx 1,95E+02. This number can also be written as: 1,95*10 ² 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 experience 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 m ²												
Parameter	Unit	A1-A3	A4	A5	B1	B2	B3-B7	C1	C2	C3	C4	D
PERE	[MJ]	9,88E+02	4,66E+00	2,30E+00	0,00E+00	3,74E+01	0,00E+00	3,32E-02	1,78E+00	3,10E+00	7,41E-01	-1,75E+02
PERM	[MJ]	1,68E+02	0,00E+00	0,00E+00	0,00E+00	2,75E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	[MJ]	1,16E+03	4,66E+00	2,30E+00	0,00E+00	4,02E+01	0,00E+00	3,32E-02	1,78E+00	3,10E+00	7,41E-01	-1,75E+02
PENRE	[MJ]	1,05E+03	5,41E+01	1,82E+01	0,00E+00	6,20E+02	0,00E+00	8,88E-03	2,07E+01	3,51E+01	4,58E+00	-5,67E+02
PENRM	[MJ]	8,24E+01	0,00E+00	-8,73E+00	0,00E+00	9,99E+00	0,00E+00	0,00E+00	0,00E+00	-2,59E+01	0,00E+00	0,00E+00
PENRT	[MJ]	1,13E+03	5,41E+01	9,43E+00	0,00E+00	6,30E+02	0,00E+00	8,88E-03	2,07E+01	9,16E+00	4,58E+00	-5,67E+02
SM	[kg]	4,17E+00	0,00E+00	0,00E+00	0,00E+00	4,31E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
RSF	[MJ]	2,78E-02	0,00E+00	0,00E+00	0,00E+00	2,54E-12	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NRSF	[MJ]	6,30E-02	0,00E+00	0,00E+00	0,00E+00	2,98E-11	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	[m3]	3,43E-01	5,19E-03	4,73E-02	0,00E+00	1,30E-01	0,00E+00	1,21E-05	1,99E-03	6,96E-02	1,18E-03	-1,00E-01
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, fx 1,95E+02. This number can also be written as: 1,95*10 ² or 195, while 1,12E-11 is the same as 1,12*10 ⁻¹¹ or 0,0000000000112.											

WASTE CATEGORIES AND OUTPUT FLOWS PER 1 m ²												
Parameter	Unit	A1-A3	A4	A5	B1	B2	B3-B7	C1	C2	C3	C4	D
HWD	[kg]	1,99E-01	2,07E-09	4,81E-09	0,00E+00	7,62E-04	0,00E+00	8,07E-11	7,92E-10	7,32E-09	1,08E-09	-4,03E-07
NHWD	[kg]	1,22E+01	8,83E-03	1,36E-01	0,00E+00	1,48E+01	0,00E+00	4,65E-05	3,38E-03	4,40E-01	1,96E+01	-3,16E+00
RWD	[kg]	1,87E-02	9,85E-05	8,14E-05	0,00E+00	1,04E-02	0,00E+00	9,23E-07	3,77E-05	1,63E-04	4,94E-05	-7,91E-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
MFR	[kg]	4,94E+00	0,00E+00	2,83E-02	0,00E+00	1,05E+01	0,00E+00	0,00E+00	0,00E+00	1,28E+01	0,00E+00	0,00E+00
MER	[kg]	5,85E-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
EEE	[MJ]	9,92E-03	0,00E+00	2,88E+01	0,00E+00	4,52E+00	0,00E+00	0,00E+00	0,00E+00	4,16E+01	0,00E+00	0,00E+00
EET	[MJ]	5,76E-01	0,00E+00	1,24E+02	0,00E+00	9,78E+00	0,00E+00	0,00E+00	0,00E+00	1,72E+02	0,00E+00	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, fx 1,95E+02. This number can also be written as: 1,95*10 ² or 195, while 1,12E-11 is the same as 1,12*10 ⁻¹¹ or 0,0000000000112.											

BIOGENIC CARBON CONTENT PER 1 m ²		
Parameter	Unit	At the factory gate
Biogenic carbon content in product	[kg C]	7,27E+00
Biogenic carbon content in accompanying packaging	[kg C]	4,98E+00
Note	1 kg biogenic carbon is equivalent to 44/12 kg of CO ₂	

Additional information

LCA interpretation

The extraction of raw resources and processing of them (A1) is the main contributor to most environmental impact categories, except GWP-total and GWP-biogenic, due to the production of insulated glass unit (IGU) and float glass. Module C3 dominates the GWP-biogenic impacts due to the incineration of wood while module B2 dominates the GWP-total impacts due to the production of IGU and lack of negative GWP-biogenic (no wood production).

Technical information on scenarios

Transport to the building site (A4)

Scenario information	Value	Unit
Fuel type	Diesel	-
Vehicle type	Truck, Euro VI A-C, up to 7.5t gross weight / 2.7t payload capacity	-
Transport distance	200	km
Capacity utilisation (including empty runs)	53	%

Installation of the product in the building (A5)

Scenario information	Value	Unit
Electricity (national electricity grid mix)	4,44E-03	kWh/m ²
Waste materials (packaging)	10,8	kg/m ²
Output materials (installed window)	48,9	kg/m ²

Reference service life

RSL information		Unit
Reference service Life	60	Years
Maintenance (cleaning)	Washing 4 times a year during the RSL	-
Maintenance (lubrication)	Lubricating 1 time a year during the RSL	-
Declared product properties	Technical specifications and guidance can be found on https://livingbetter.dk/ or via direct contact to Living Better at info@livingbetter.dk	As appropriate
Design application parameters		As appropriate
Assumed quality of work		As appropriate
Outdoor environment		As appropriate
Indoor environment		As appropriate
Usage conditions		As appropriate

Use (B1-B7)

Scenario information	Value	Unit
B2 - Maintenance		
Maintenance process	Washing	-
Maintenance cycle	240	cycles/RSL
Ancillary materials for maintenance: Cleaning agent	1,26	kg/RSL
Net freshwater consumption during maintenance per year	23,93	kg/RSL
Waste water resulting from maintenance	25,19	kg/RSL
Energy input during maintenance	-	kWh/RSL
Maintenance process	Lubrication	-
Maintenance frequency	60	cycles/RSL
Ancillary materials for maintenance: Lubricant	1,20	kg/RSL
Maintenance process	Paint	
Maintenance frequency	1	cycles/RSL
Ancillary materials for maintenance: top coat	0,08	kg/RSL
Ancillary materials for maintenance: Prime coat	-	kg/RSL
Waste materials resulting from maintenance (specify which)	-	kg/RSL
Net freshwater consumption during maintenance per year	-	kg/RSL
Energy input during maintenance	-	kWh/RSL
Maintenance process	Replacement of IGU	-
Maintenance frequency	1	cycles/RSL
Ancillary materials for maintenance: IGU	15,77	kg/RSL
Energy input during maintenance	-	kWh/RSL
Maintenance process	Replacement of fittings	-
Maintenance frequency	1	cycles/RSL
Ancillary materials for maintenance: Fitting IPA	0,44	kg/RSL
Ancillary materials for maintenance: Fitting Siegenia	0,27	kg/RSL
Maintenance process	Replacement of seals	-
Maintenance frequency	3	cycles/RSL
Ancillary materials for maintenance: EPDM seal	1,05	kg/RSL
Ancillary materials for maintenance: TPE seal	0,11	kg/RSL

End of life (C1-C4)

Scenario information	Amount	Units
Collected separately	48,91	kg/m ²
Collected with mixed waste	0,00	kg/m ²
Reuse	0,00	kg/m ²
Recycling	12,75	kg/m ²
Incineration (with energy recovery)	16,18	kg/m ²
Final disposal (landfill)	19,98	kg/m ²

Re-use, recovery and recycling potential (D)

Scenario information/Material	Value	Units	Comment
Metal components for recovery (primary aluminium, galvanized steel, stainless steel)	2,42	kg/m ²	Including amounts from B2
Glass for recovery	12,18	kg/m ²	Including amounts from B2
Exported electricity	41,61	MJ/m ²	
Exported thermal energy	172,5	MJ/m ²	
Exported energy	214,1	MJ/m ²	

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+A1 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+A1 chapter 7.4.2.

References

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3rd party verifier	Guangli Du, Aalborg University Verified according to Verification Checklist 1 v. 2.8

General programme instructions

General Programme Instructions, version 2.0, spring 2020
www.epddanmark.dk

EN 15804

DS/EN 15804 + A2:2019 - "Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products"

EN 17213

EN 17213:2020 – "Windows and doors – Environmental Product Declarations – Product category rules for windows and pedestrian doorsets"

EN 15942

DS/EN 15942:2011 – "Sustainability of construction works – Environmental product declarations – Communication format business-to-business"

ISO 14025

DS/EN ISO 14025:2010 – "Environmental labels and declarations – Type III environmental declarations – Principles and procedures"

ISO 14040

DS/EN ISO 14040:2008 – "Environmental management – Life cycle assessment – Principles and framework"

ISO 14044

DS/EN ISO 14044:2008 – "Environmental management – Life cycle assessment – Requirements and guidelines"