

## ENVIRONMENTAL PRODUCT DECLARATION IN ACCORDANCE WITH EN 15804+A& ISO 14025/ISO 21930

### SWEDOOR ADVANCE -LINE UNCLASSIFIED INTERIOR DOORS 40MM, UNGLAZED UNIQUE

#### JELD-WEN



EPD HUB, HUB-1205



## GENERAL INFORMATION

### MANUFACTURER

Manufacturer	JELD-WEN
Address	Retford Road, Woodhouse Mill, Sheffield, South Yorkshire, S13 9WH
Contact details	EU_Sustainability@jeldwen.com
Website	www.jeldwen.biz

### EPD STANDARDS, SCOPE AND VERIFICATION

Program operator	EPD Hub, hub@epdhub.com
Reference standard	EN 15804+A2:2019 and ISO 14025
PCR	EPD Hub Core PCR version 1.0, 1 Feb 2022 EN 17213 Windows and doors
Sector	Construction product
Category of EPD	Third party verified EPD
Scope of the EPD	Cradle to gate with options, A4A5, and modules C1C4, D
EPD author	Susanna Käsänen
EPD verification	Independent verification of this EPD and data, according to ISO 14025: <input type="checkbox"/> Internal verification <input checked="" type="checkbox"/> External verification
EPD verifier	Haiha Nguyen, as an authorized verifier acting for EPD Hub Limited

The manufacturer has the sole ownership, liability, and responsibility for the EPD. EPDs within the same product category but from different programs may not be comparable. EPDs of construction products may not be comparable if they do not comply with EN 15804 and if they are not compared in a building context.

### PRODUCT

Product name	Swedoor ADVANCE-LINE Unclassified Interior doors 40 mm unglazed Unique
Additional labels	SWEDOODOR UNIQUE
Product reference	
Place of production	Finland, Denmark
Period for data	2022
Averaging in EPD	No averaging
Variation in GWP -fossil for A1-A3	<10%

### ENVIRONMENTAL DATA SUMMARY

Declared unit	one square meter
Declared unit mass	14,9 kg
GWP-fossil, A1-A3 (kgCO <sub>2</sub> e)	3,23E+01
GWP-total, A1-A3 (kgCO <sub>2</sub> e)	1,05+01
Secondary material, inputs (%)	1,95
Secondary material, outputs (%)	64.6
Total energy use, A1-A3 (kWh)	216.0
Total water use, A1-A3 (m <sup>3</sup> e)	8.46E-01

# PRODUCT AND MANUFACTURER

## ABOUT THE MANUFACTURER

Headquartered in Charlotte, N.C., USA, JELDOWEN is a leading global manufacturer of high performance interior and exterior building products, offering one of the broadest selections of windows, interior and exterior doors, and wall systems. JELDOWEN delivers a differentiated customer experience, providing construction professionals with durable, energy-efficient products and labor-saving services that help them maximize productivity and create beautiful, secure spaces for all to enjoy. The JELDOWEN team is driven by innovation and committed to creating safe, sustainable environments for customers, associates, and local communities. The JELDOWEN family of brands includes JELDOWEN® worldwide; LaCantina and VPI in North America; Swedoor® and DANA® in Europe. Visit JELDOWEN.com for more information

## PRODUCT DESCRIPTION

Advance-line interior 40mm nonrebated door leaf with a solid core construction. Suitable for use in both private and public buildings e.g offices. Installing solid door leaf with a frame with sealing would give a high sound reducing effect.

The scope of this EPD is the finished doorleaf with standard hardware and surface treatment and it does not include the frames where door is intended to be installed. For the result of the whole set, please add the EPDs of the frame set of your choice to your project. The indicator result for the declared unit of one square meter of product in this EPD are calculated with the reference product size of 0,825 m x 2,00 m.

The specific technical standards and addition product information for each door design can be found on Swedoor website, [www.jeldowen.biz](http://www.jeldowen.biz).

## PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass - %	Material origin
Bio-based materials	90	EU
Fossil materials	8	EU
Metals	2	GLOBAL

## BIOGENIC CARBON CONTENT

Biogenic carbon content in product, kg C	5,77
Biogenic carbon content in packaging, kg C	0,30

## FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	one square meter
Mass per declared unit	14,9 kg

## SUBSTANCES, REACH - VERY HIGH CONCERN

The product does not contain any REACH SVHC substances in amounts greater than 0,1 % (1000 ppm).

# PRODUCT LIFE -CYCLE

## SYSTEM BOUNDARY

This EPD covers the lifecycle modules listed in the following table.

Product stage			Assembly stage		Use stage							End of life stage				Beyond the system boundaries		
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D		
x	x	x	x	x	MND							x	x	x	x	x		
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstr./demol.	Transport	Waste processing	Disposal	Reuse	Recovery	Recycling

Modules not declared = MND. Modules not relevant = MNR.

### MANUFACTURING AND PACKAGING (A1-A3)

The environmental impacts considered for the product stage cover the manufacturing of raw materials used in the production as well as packaging materials and other ancillary materials. Also, fuels used by machines, and handling of waste formed in the production processes at the manufacturing facilities are included in this stage. The study also considers the material losses occurring during the manufacturing processes as well as losses during electricity transmission.

The manufacturing process begins by gluing and pressing the components of the doorleaf together. This is followed then by different milling phases, where the product components are made

to meet the correct dimensions, as well as the holes for the hardware installations and chosen edge profiles are made. Next, the door undergoes the surface treatment. After the painting process, the door is ready for installing the hardware (lock & hinges). Lastly, before leaving the factory, the door is stacked onto pallets along other doors (max. 20 doors per pallet) and to shield the finished product during transportation phase, the stack is protected with cardboard and plastic packaging materials.

### TRANSPORT AND INSTALLATION (A4-A5)

Transportation impacts occurred from final products delivery to construction site (A4) cover fuel direct exhaust emissions, environmental impacts of fuel production, as well as related infrastructure emissions.

When considering this phase of the lifecycle, there is not only one place where the transportation from us would end, as our customers can have multiple locations between each other, thus causing variance to the transport distance and the needed vehicles. The travel distances used on the transportation data is then a theoretical value, a weighted average value for this product, which is calculated based on its previous transportation history. The assumed vehicle for the transportation is a lorry, with the vehicle capacity value of 1, meaning that the lorry is carrying a full load all around while transporting the goods, causing distortion to the results. However, when considering the overall results of the product lifecycle, the impact of the variance among transportation can be considered negligible due having a low impact to the overall results. Empty returns are considered to be out of scope, as the transportation company is considered to be out of our use, when they are not having our goods on board.

serving their other customers or routes. Material loss is not expected to take place during transportation phase due to sufficient protective packaging of our products.

Upon installing the products, the packaging materials are removed, leading to generating packaging waste. As the final product is only installed, there is no material loss expected to happen during installing phase nor such construction practices that would lead to material loss are needed. The installing work consists of mounting and fastening, which can be done with hand tools. There are no extra materials needed to be used for the installing purposes. The energy consumption for installing is then considered to be zero, due to the small size of the consumption and the impact it has on this lifecycle stage.

### PRODUCT USE AND MAINTENANCE (B1-B7)

Air, soil, and water impacts during the use phase have not been studied.

### PRODUCT END OF LIFE (C1-C4, D)

The energy and use of natural resources upon demolition process are considered negligible. Assumptions regarding the waste management are given regarding the sorting practices and transport distance. The waste collecting vehicle is assumed to a lorry and the waste is assumed to be part of the mixed construction waste fraction. The travel distance of the lorry carrying the waste from the demolition site to the waste handling site is assumed to be 50 kilometres.

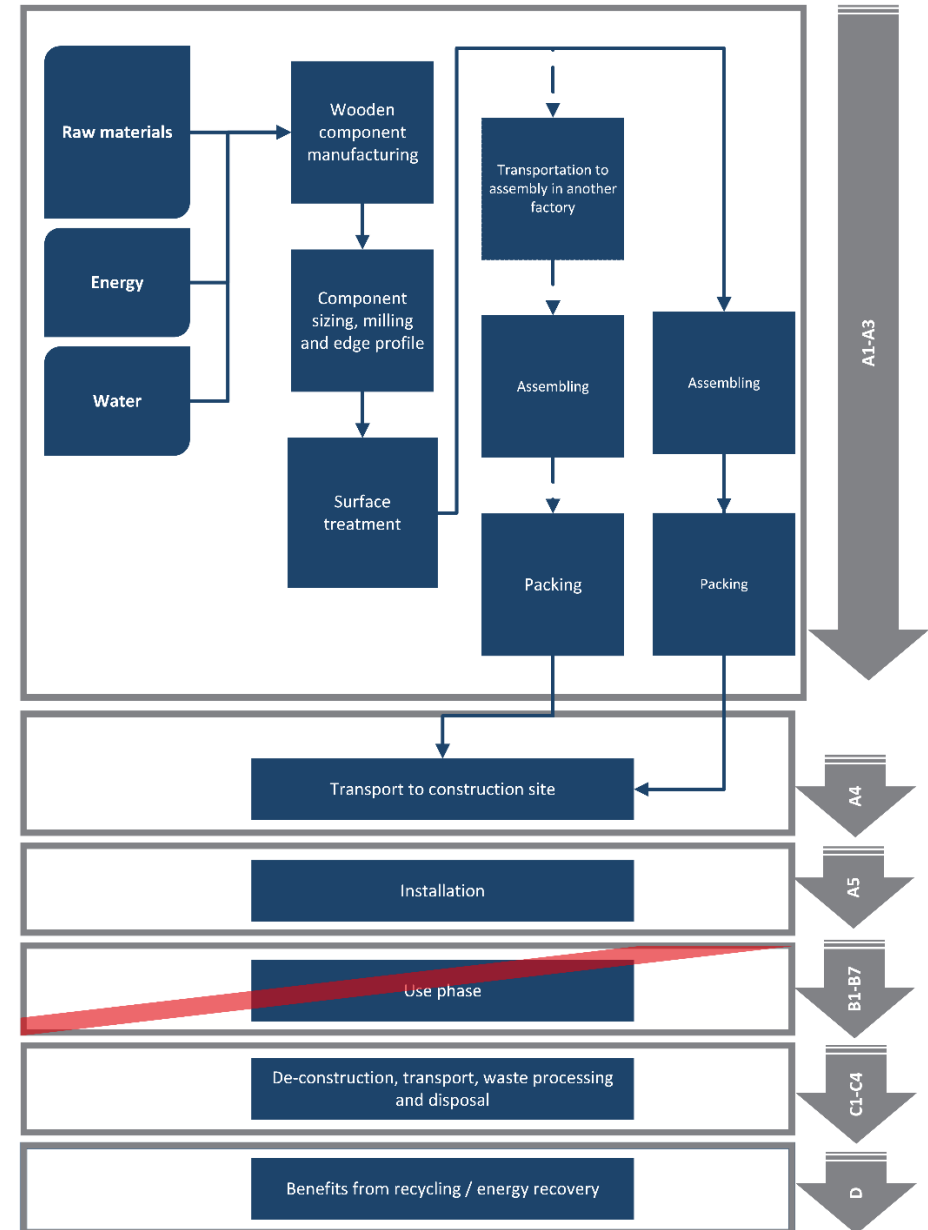
Upon arriving to the waste management plant the recyclable

material of the waste and/or the energy recovery applicable materials are separated from the waste and diverted to correct use. Per the end of life scenario of timber windows and doorsets (EN17213 Annex B), the wood, metal, plastic, paint and glue are sorted. Module C3 accounts for energy and resource inputs for sorting and treating these waste streams for recycling and incineration with energy recovery. Per the end of life scenario of timber windows and doorsets (EN17213 Annex B), 5% of wood, 5% of metal, 5% of plastic and 5% of paint and glue waste goes to landfill. Additionally, hazardous waste that is incinerated is included in Module C4 (not included in Module D for benefits outside of the system boundary).

As specific national data is not used for timber / wooden products, then according to the end of life scenario of timber windows and doorsets (EN17213 Annex B), 100% of sorted timber materials goes to incineration. The wooden pallet, wooden board, cardboard packaging and plastic packaging used during transportation are also incinerated for energy recovery or recycled. The benefits and loads of incineration and recycling are included in Module D. Plastic and steel parts hold potential for recycling and material recovery for secondary material production purposes, that reduce the need for virgin raw materials (D) The fibreboards and wooden content of the doorleaf have great heating value and are applicable for energy production upon used as a fuel in the incineration process (D), decreasing the demand for virgin fuel production and use.

# MANUFACTURING PROCESS AND SYSTEM BOUNDARY

The products are assembled in two factories, Växjö in Finland and Løgstør in Denmark. However, the manufacturing process is the same for products, and this graph represents the manufacturing process for the product, regardless which factory is doing the assembling and packing. Before the finished products are leaving the factory gates, the products have gone through the same steps, regardless which factory is finishing the product.





# ENVIRONMENTAL IMPACT DATA

## CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2:PEF

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP – total <sup>1)</sup>	kg CO <sub>2</sub> e	-1,17E+01	1,22E+00	2,09E+01	1,05E+01	1,63E+00	1,04E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	7,00E-02	2,46E+01	1,05E+00	9,00E+00
GWP – fossil	kg CO <sub>2</sub> e	1,10E+01	1,22E+00	2,01E+01	3,23E+01	1,63E+00	4,06E+02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	7,00E-02	4,64E+00	3,93E+03	-1,21E+01
GWP – biogenic	kg CO <sub>2</sub> e	-2,28E+01	4,17E-04	8,83E+01	-2,19E+01	6,12E-04	1,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	1,99E+01	1,05E+00	2,11E+01
GWP – LULUC	kg CO <sub>2</sub> e	6,98E+02	5,12E-04	6,34E+03	7,66E+02	7,07E-04	1,93E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,58E-05	4,26E+04	3,71E-06	-1,88E-02
Ozone depletion	kg CFC <sub>11</sub> e	4,89E+06	2,75E-07	1,19E-06	6,35E+06	3,70E-07	2,58E-09	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,61E-08	3,05E+07	1,59E-09	-6,73E-07
Acidification potential	mol H <sup>+</sup> e	9,37E-02	1,09E-02	1,65E-01	2,70E-01	1,38E-02	2,01E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,96E+04	4,53E+03	3,69E+05	-9,51E-02
EP-freshwater <sup>2)</sup>	kg Pe	2,03E+03	9,03E+06	8,10E-04	2,85E+03	1,05E-05	4,89E-07	MND	MND	MND	MND	MND	MND	MND	0,00E+00	5,73E-07	1,56E-05	4,11E-08	-4,71E-04
EP-marine	kg Ne	1,64E-02	2,93E+03	3,04E+02	4,97E+02	3,71E-03	8,28E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	8,81E-05	6,92E+04	1,28E-05	-1,18E-02
EP-terrestrial	mol Ne	1,84E-01	3,25E+02	3,33E+01	5,49E+01	4,11E-02	8,71E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	9,71E-04	7,79E-03	1,41E-04	-1,38E-01
POCP (“smog”) <sup>3)</sup>	kg NMVOCe	5,87E-02	9,26E+03	8,87E+02	1,57E-01	1,15E-02	2,24E+04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,11E-04	2,47E+03	4,09E+05	-3,78E-02
ADP-minerals & metals <sup>4)</sup>	kg Sbe	1,05E-04	2,65E+06	1,10E-05	1,19E-04	5,21E-06	1,80E-07	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,64E-07	3,34E+06	9,02E+09	-1,39E-05
ADP-fossil	MJ	2,14E+02	1,79E+01	3,16E+01	2,63E+02	2,37E+01	2,41E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,05E+00	2,02E+01	1,08E-01	-1,46E+02
Water use <sup>5)</sup>	m <sup>3</sup> e depr.	1,76E+02	7,57E-02	1,11E+01	1,87E+02	1,04E-01	5,14E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,70E-03	1,52E-01	3,42E+04	-2,37E+00

1) GWP = Global Warming Potential; 2) EP = Eutrophication potential. Required characterisation method and data are in kg CO<sub>2</sub>e. Multiply by 3,07 to get PO<sub>4</sub>e; 3) POCP = Photochemical ozone formation; 4) ADP = Abiotic depletion potential; 5) EN 15804+A2:PEF for Abiotic depletion and Water use and optional indicators except Particulate matter and Ionizing radiation, human health. The results of these environmental impact indicators shall be used with care as the uncertainties on these results are high due to limited experience with the indicator.



### ADDITIONAL (OPTIONAL) ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2PEF

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Particulate matter	Incidenc	9,56E07	1,24E07	2,54E06	3,62E06	1,27E07	2,75E09	MND	MND	MND	MND	MND	MND	MND	0,00E+00	8,06E09	3,77E08	7,44E10	-9,03E07
Ionizing	kBq	8,81E01	8,47E02	4,12E+00	5,08E+00	1,22E01	1,27E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	5,00E03	1,46E01	4,87E04	-3,00E+00
Ecotoxicity	CTUe	1,79E+02	1,54E+01	3,36E+02	5,30E+02	1,90E+01	9,36E01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	9,45E01	1,94E+01	7,02E02	-2,89E+02
Human toxicity,	CTUh	4,08E08	4,53E10	5,09E09	4,63E08	6,66E10	7,38E11	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,32E11	8,55E09	1,76E-12	-2,87E09
Human tox. non-	CTUh	2,53E07	1,47E-08	2,04E07	4,72E07	1,85E-08	2,27E09	MND	MND	MND	MND	MND	MND	MND	0,00E+00	9,36E10	1,77E-08	4,59E11	-1,32E07
SQP7)	-	1,42E+03	1,80E+01	8,43E+01	1,52E+03	1,48E+01	2,25E01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,21E+00	3,30E+00	2,30E01	-1,05E+02

6) EN 15804+A2 disclaimer for Ionizing radiation, human health. This impact category deals mainly with the eventual impact of low-dose 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; 7) SQP = Land use related impacts/soil quality

### USE OF NATURAL RESOURCES

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Renew. PER as energy <sup>8)</sup>	MJ	2,09E+02	1,89E01	2,85E+01	2,37E+02	3,15E01	1,19E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,18E-02	5,26E01	9,35E04	-3,25E+01
Renew. PER as material	MJ	2,22E+02	0,00E+00	-1,01E+01	2,12E+02	0,00E+00	-8,74E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	-1,93E+02	-1,02E+01	0,00E+00
Total use of renew. PER	MJ	4,31E+02	1,89E01	1,83E+01	4,49E+02	3,15E01	-8,72E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,18E-02	-1,92E+02	-1,02E+01	-3,25E+01
Non-re. PER as energy	MJ	1,57E+02	1,79E+01	3,07E+02	4,82E+02	2,37E+01	2,41E01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,05E+00	2,02E+01	1,08E01	-1,51E+02
Non-re. PER as material	MJ	3,84E+01	0,00E+00	-4,27E+00	3,42E+01	0,00E+00	-5,50E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	-2,72E+01	-1,43E+00	-5,15E+00
Total use of non-re. PER	MJ	1,95E+02	1,79E+01	3,03E+02	5,16E+02	2,37E+01	-5,26E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,05E+00	-7,01E+00	-1,33E+00	-1,57E+02
Secondary materials	kg	2,91E01	5,32E03	3,36E01	6,32E01	8,18E03	6,47E04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,92E04	7,73E03	2,26E05	-4,53E02
Renew. secondary fuels	MJ	5,49E+00	4,59E05	5,14E+01	5,69E+01	7,95E05	5,46E06	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,94E06	2,08E05	5,91E07	4,19E03

Non-ren. secondary fuels	MJ	3,32E02	0,00E+00	0,00E+00	3,32E02	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m3	6,93E01	2,14E03	1,51E-01	8,46E01	2,77E03	3,62E04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,36E-04	4,01E-03	1,18E-04	-1,16E-01

8) PER = Primary energy resources.

### END OF LIFE – WASTE

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Hazardous waste	kg	8,34E01	2,36E02	1,17E+00	2,03E+00	2,70E02	1,38E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,39E-03	1,17E+00	0,00E+00	-1,02E+00
Non-hazardous	kg	1,70E+01	3,60E01	3,29E+01	5,03E+01	4,41E01	7,33E01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,29E02	1,22E+00	7,46E01	-5,09E+01
Radioactive waste	kg	7,37E04	1,21E-04	1,69E03	2,54E03	1,64E04	6,68E07	MND	MND	MND	MND	MND	MND	MND	0,00E+00	7,03E06	2,65E05	0,00E+00	-8,53E04

### END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Components for re-use	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	4,57E02	0,00E+00	0,00E+00	4,57E02	0,00E+00	1,21E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	2,41E-01	0,00E+00	0,00E+00
Materials for energy recovery	kg	6,95E04	0,00E+00	1,37E+00	1,37E+00	0,00E+00	7,13E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	9,39E+00	0,00E+00	0,00E+00
Exported energy	MJ	0,00E+00	0,00E+00	1,41E+01	1,41E+01	0,00E+00	4,01E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

### ENVIRONMENTAL IMPACTS- EN 15804+A1CML/ISO 21930

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Global Warming Pot.	kg CO <sub>2</sub> e	8,22E+00	1,21E+00	1,98E+01	2,92E+01	1,62E+00	3,94E02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	6,93E02	4,62E+00	3,85E03	-1,19E+01
Ozone depletion Pot.	kg CFC <sub>11</sub> e	4,44E06	2,18E07	9,47E07	5,61E06	2,93E07	2,20E09	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,27E-08	2,43E07	1,26E09	-5,52E07
Acidification	kg SO <sub>2</sub> e	6,67E02	8,64E03	1,39E01	2,14E01	1,09E02	1,47E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,30E04	3,81E-03	2,79E05	-8,08E02
Eutrophication	kg PO <sub>4</sub> <sup>3e</sup>	2,17E-02	1,36E03	3,35E02	5,65E02	1,72E-03	1,73E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	5,24E05	3,15E-03	6,02E06	-1,87E-02
<b>POCP ("smog")</b>	kg C <sub>2</sub> H <sub>4</sub> e	4,47E03	2,65E04	6,09E03	1,08E02	3,44E04	6,01E06	MND	MND	MND	MND	MND	MND	MND	0,00E+00	8,99E06	1,58E04	1,17E-06	-3,45E03
ADP-elements	kg Sbe	7,17E-05	2,57E06	3,93E05	1,14E-04	5,10E06	1,68E07	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,59E07	3,19E06	8,89E09	-1,38E05
ADP-fossil	MJ	1,38E+02	1,79E+01	3,12E+02	4,68E+02	2,37E+01	2,41E01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,05E+00	2,02E+01	1,08E01	-1,43E+02

### ENVIRONMENTAL IMPACTS- FRENCH NATIONAL COMPLEMENTS

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
ADP-elements	kg Sbe	3,83E05	2,57E06	3,92E05	8,01E05	5,10E06	1,68E07	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,59E07	3,19E06	8,89E09	-1,38E05
Hazardous waste disposed	kg	5,49E01	2,36E02	1,82E+00	2,39E+00	2,70E02	1,38E03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,39E03	1,17E+00	0,00E+00	-1,02E+00
Non-haz. waste disposed	kg	1,37E+01	3,60E01	3,41E+00	1,75E+01	4,41E01	7,33E01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,29E02	1,22E+00	7,46E01	-5,09E+01
Air pollution	m3	2,17E+03	2,21E+02	2,42E+03	4,81E+03	2,31E+02	6,27E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,26E+01	9,09E+01	8,63E01	-4,72E+03
Water pollution	m3	6,16E+01	1,22E+00	2,62E+01	8,91E+01	2,04E+00	3,23E01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	7,40E02	2,84E+01	5,71E03	-2,75E+01

### ENVIRONMENTAL IMPACTS- GWP-GHG - THE INTERNATIONAL EPD SYSTEM

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-GHG <sup>9)</sup>	kg CO <sub>2</sub> e	1,10E+01	1,22E+00	2,01E+01	3,23E+01	1,63E+00	4,06E-02	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	-1,21E+01

9) This indicator includes all greenhouse gases excluding biogenic carbon dioxide uptake and emissions and biogenic carbon in the product as defined by IPCC AR 5 (IPCC 2013). In addition, the characterisation factors for the flows fossil, CH<sub>4</sub> biogenic and Dinitrogen monoxide were updated in line with the guidance of IES PCR 1.2.5 Annex 1. This indicator is identical to the GWP total of EN 15804:2012+A2:2019 except that the characterization factor for biogenic CO<sub>2</sub> is set to zero.

## VERIFICATION STATEMENT

### VERIFICATION PROCESS FOR THIS EPD

This EPD has been verified in accordance with ISO 14025 by an independent, third party verifier by reviewing results, documents and compliancy with reference standard, ISO 14025 and ISO 14040/14044, following the process and checklists of the program operator for:

- This Environmental Product Declaration
- The LifeCycle Assessment used in this EPD
- The digital background data for this EPD

Why does verification transparency matter? Read more online  
This EPD has been generated by One Click LCA EPD generator, which has been verified and approved by the EPD Hub.

### THIRD -PARTY VERIFICATION STATEMENT

I hereby confirm that, following detailed examination, I have not established any relevant deviations by the studied Environmental Product Declaration (EPD), its LCA and project report, in terms of the data collected and used in the LCA calculations, by the LCA-based calculations have been carried out, the presentation of environmental data in the EPD, and other additional environmental information, as present with respect to the procedural and methodological requirements in ISO 14025:2010 and reference standard.

I confirm that the company specific data has been examined as regards plausibility and consistency; the declaration owner is responsible for its factual integrity and legal compliance.

I confirm that I have sufficient knowledge and experience of construction products, this specific product category, the construction industry, relevant standards, and the geographical area of the EPD to carry out this verification.

I confirm my independence in my role as verifier; I have not been involved in the execution of the LCA or in the development of the declaration and have no conflicts of interest regarding this verification.

HaiHa Nguyen, as an authorized verifier acting for EPD Hub Limited  
07.03.2024

