

ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025 / ISO 21930

SWEDOOR clever-line

EXTERIOR DOORSETS 60 mm, GLAZED

JELD-WEN



EPD HUB, HUB-2742

Published on 10.01.2025, last updated on 10.01.2025, valid until 09.01.2030

GENERAL INFORMATION

MANUFACTURER

Manufacturer	JELD-WEN
Address	Retford Road, Woodhouse Mill, Sheffield, South Yorkshire, S13 9WH, United Kingdom
Contact details	EU_Sustainability@jeldwen.com
Website	www.jeld-wen.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 1.1, 5 Dec 2023 EN 17213 Windows and doors
Sector	Construction product
Category of EPD	Third party verified EPD
Scope of the EPD	Cradle to gate with options, A4-A5, and modules C1-C4, D
EPD author	Piia Peever
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal verification ☒ 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	SWEDOODOR clever-line Exterior doorsets, 60 mm glazed
Additional labels	SWEDOODOR clever-line SWEDOODOR clever-line+
Place of production	Aizkraukle, Latvia
Period for data	Calendar year 2021
Averaging in EPD	Multiple products
Variation in GWP-fossil for A1-A3	1 %

ENVIRONMENTAL DATA SUMMARY

Declared unit	one square meter (m ²)
Declared unit mass	23.43 kg
GWP-fossil, A1-A3 (kgCO ₂ e)	6,98E+01
GWP-total, A1-A3 (kgCO ₂ e)	4,61E+01
Secondary material, inputs (%)	6.14
Secondary material, outputs (%)	51.9
Total energy use, A1-A3 (kWh)	388
Net freshwater use, A1-A3 (m ³)	21.6

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

Headquartered in Charlotte, N.C., USA, JELD-WEN 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. JELD-WEN 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 JELD-WEN team is driven by innovation and committed to creating safe, sustainable environments for customers, associates, and local communities. The JELD-WEN family of brands includes JELD-WEN® worldwide; LaCantina™ and VPI™ in North America; Swedoor® and DANA® in Europe; and Corinthian®, Stegbar®, and Breezway® in Australia. Visit JELD-WEN.com for more information.

PRODUCT DESCRIPTION

Glazed clever-line, clever-line+ exterior doorset including sandwich doorleaf with core of EPS, wooden frame and standard hardware for installation. The scope of this EPD is the full doorset for module size of 9x21, depth of frame 105 mm. The reference size of 0,988 m x 2,080 m is used in the LCA to calculate the results for the declared unit (one square meter of the doorset).

The specific technical standards and additional product information for the designs and available classification options can be found on Swedoor website, www.jeld-wen.biz.

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	11	EU
Minerals	25	EU
Fossil materials	16	EU
Bio-based materials	48	EU

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	5.19
Biogenic carbon content in packaging, kg C	1.42

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	one square meter (m ²)
Mass per declared unit	23.43 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 life-cycle 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	Deconstruction/ demolition	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 glazing and hardware (lock & hinges). Lastly, before leaving the factory, the door is stacked onto pallets along other doors 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.

The transportation distance is calculated based on the product-specific sales data, taking into account the end customer locations; weighted average result is being used. The transportation method is assumed to be lorry and ferry. Vehicle capacity utilization volume factor is assumed to be 1 which means full load. In reality, it may vary but as role of transportation emissions in total results is small, the variety in load is assumed to be negligible. Empty returns are not taken into account as it is assumed that return trip is used by the transportation company to serve the needs of other clients. Transportation does not cause losses as product are packaged properly.

Installation includes the generated packaging waste. There is no loss on site during construction activities.

Energy use during installation has not been taken into account, as installing the door only requires mounting and fastening. No additional materials are needed for installation.

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)

Consumption of energy and natural resources in demolition process is assumed to be negligible.

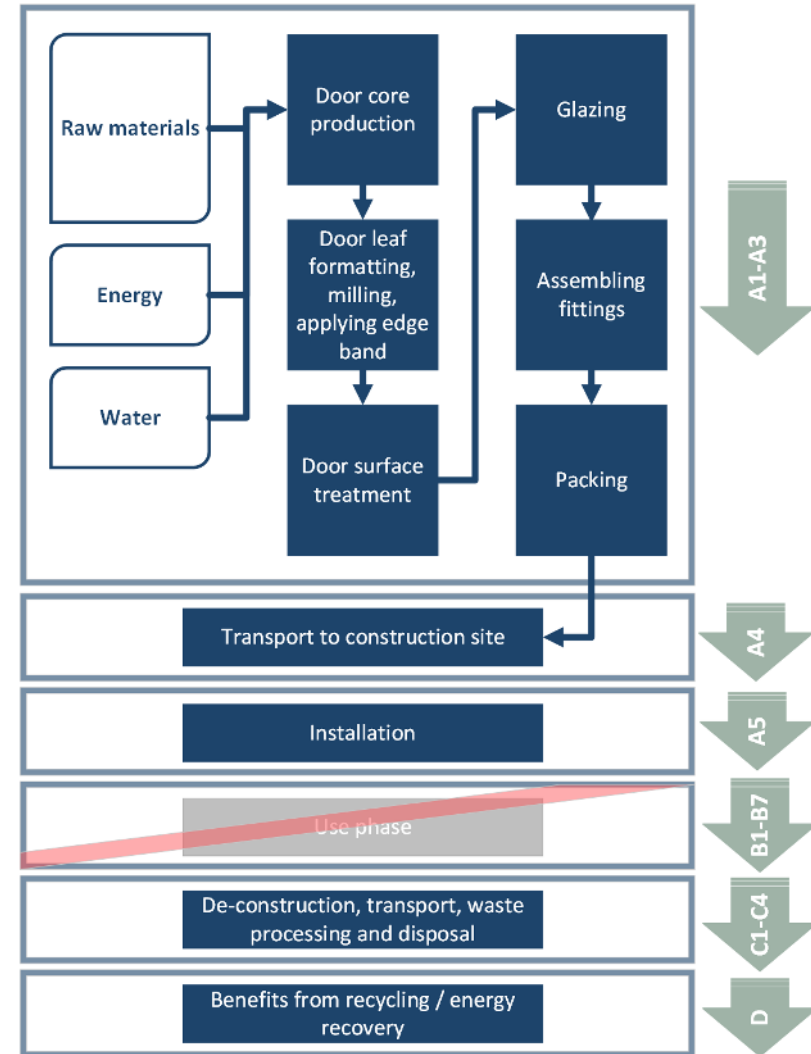
It is assumed that the waste is collected as mixed construction waste and transported to the waste treatment center. Transportation distance to treatment is assumed as 50 km and the transportation method is assumed to be lorry (C2).

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, 70% glass and 5% of paint and glue waste goes to landfill. Additionally, hazardous waste that is incinerated is included in Module C4 while the flow not included in Module D for benefits. 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.

MANUFACTURING PROCESS AND SYSTEM BOUNDARY



LIFE-CYCLE ASSESSMENT

CUT-OFF CRITERIA

The study does not exclude any modules or processes which are stated mandatory in the reference standard and the applied PCR. The study does not exclude any hazardous materials or substances. The study includes all major raw material and energy consumption. All inputs and outputs of the unit processes, for which data is available for, are included in the calculation. There is no neglected unit process more than 1% of total mass or energy flows. The module specific total neglected input and output flows also do not exceed 5% of energy usage or mass.

ALLOCATION, ESTIMATES AND ASSUMPTIONS

Allocation is required if some material, energy, and waste data cannot be measured separately for the product under investigation. All allocations are done as per the reference standards and the applied PCR. In this study, allocation has been done in the following ways:

Data type	Allocation
Raw materials	No allocation
Packaging material	Allocated by mass or volume
Ancillary materials	Allocated by mass or volume
Manufacturing energy and waste	Allocated by mass or volume

AVERAGES AND VARIABILITY

Type of average	Multiple products
Averaging method	Averaged by shares of total revenue
Variation in GWP-fossil for A1-A3	1 %

This is an averaged EPD, covering glazed clever-line and clever-line+ doorsets. The variation is in the glazing system, the main difference being that the window bar is made of different material - clever-line has window bar made of PVC, clever-line+ window bar is made of HDF. Variation of GWP-fossil A1-A3 is 1%.

LCA SOFTWARE AND BIBLIOGRAPHY

This EPD has been created using One Click LCA EPD Generator. The LCA and EPD have been prepared according to the reference standards and ISO 14040/14044. The EPD Generator uses Ecoinvent v3.8, Plastics Europe, Federal LCA Commons and One Click LCA databases as sources of environmental data.

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 ¹⁾	kg CO ₂ e	2,56E+01	3,50E+00	1,70E+01	4,61E+01	3,81E+00	5,33E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,10E-01	1,97E+01	4,30E+00	1,67E+01
GWP – fossil	kg CO ₂ e	4,85E+01	3,50E+00	1,78E+01	6,98E+01	3,80E+00	1,42E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,10E-01	1,59E+00	3,35E+00	-1,35E+00
GWP – biogenic	kg CO ₂ e	-2,34E+01	2,48E-05	-8,08E-01	-2,42E+01	0,00E+00	5,19E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	1,81E+01	9,52E-01	1,81E+01
GWP – LULUC	kg CO ₂ e	5,01E-01	1,34E-03	7,13E-03	5,09E-01	1,51E-03	6,39E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,06E-05	7,23E-04	2,38E-04	-1,09E-02
Ozone depletion pot.	kg CFC-11e	8,05E-06	8,06E-07	1,32E-06	1,02E-05	8,90E-07	1,24E-08	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,53E-08	5,20E-08	2,56E-07	-3,96E-07
Acidification potential	mol H ⁺ e	3,85E-01	1,64E-02	9,02E-02	4,91E-01	2,94E-02	8,14E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,65E-04	3,04E-03	3,45E-03	-5,65E-02
EP-freshwater ²⁾	kg Pe	2,26E-03	2,41E-05	1,14E-04	2,40E-03	2,44E-05	1,68E-06	MND	MND	MND	MND	MND	MND	MND	0,00E+00	9,00E-07	2,43E-05	4,07E-06	-2,86E-04
EP-marine	kg Ne	5,41E-02	5,03E-03	1,55E-02	7,46E-02	8,07E-03	3,45E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,38E-04	5,56E-04	6,12E-04	-5,20E-03
EP-terrestrial	mol Ne	6,80E-01	5,54E-02	1,71E-01	9,06E-01	8,93E-02	3,68E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,53E-03	6,20E-03	6,47E-03	-7,02E-02
POCP (“smog”) ³⁾	kg NMVOCe	1,92E-01	1,66E-02	5,10E-02	2,60E-01	2,60E-02	9,47E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,88E-04	1,84E-03	2,07E-03	-2,22E-02
ADP-minerals & metals ⁴⁾	kg Sbe	4,60E-04	1,16E-05	4,24E-05	5,14E-04	8,41E-06	5,86E-07	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,58E-07	2,12E-05	1,99E-06	-2,89E-05
ADP-fossil resources	MJ	7,75E+02	5,17E+01	2,71E+02	1,10E+03	5,69E+01	1,11E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,65E+00	6,95E+00	1,54E+01	-9,60E+01
Water use ⁵⁾	m ³ e depr.	1,85E+02	2,34E-01	8,14E+00	1,93E+02	2,52E-01	2,46E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	7,39E-03	1,81E-01	7,01E-02	1,48E-01

1) GWP = Global Warming Potential; 2) EP = Eutrophication potential. Required characterisation method and data are in kg P-eq. Multiply by 3,07 to get PO₄e; 3) POCP = Photochemical ozone formation; 4) ADP = Abiotic depletion potential; 5) EN 15804+A2 disclaimer 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 or as there is limited experience with the indicator.

ADDITIONAL (OPTIONAL) 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
Particulate matter	Incidence	3,65E-06	3,32E-07	3,47E-07	4,33E-06	4,06E-07	1,14E-08	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,27E-08	4,93E-08	3,39E-08	-5,49E-07
Ionizing radiation ⁶⁾	kBq 11235e	3,47E+00	2,68E-01	2,54E+00	6,28E+00	2,90E-01	5,24E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	7,86E-03	9,68E-02	7,49E-02	-1,79E+00
Ecotoxicity (freshwater)	CTUe	8,97E+02	4,25E+01	1,84E+02	1,12E+03	4,61E+01	2,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,49E+00	1,58E+01	6,65E+01	-1,76E+02
Human toxicity, cancer	CTUh	9,17E-08	1,32E-09	1,34E-08	1,06E-07	1,38E-09	2,46E-10	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,65E-11	1,93E-09	6,48E-09	6,32E-09
Human tox. non-cancer	CTUh	1,15E-06	4,27E-08	1,14E-07	1,30E-06	4,72E-08	8,66E-09	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,47E-09	2,00E-08	1,22E-08	2,04E-08
SQP ⁷⁾	-	2,33E+03	3,64E+01	3,38E+02	2,71E+03	6,02E+01	7,96E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,90E+00	6,15E+00	3,91E+00	-6,57E+01

6) EN 15804+A2 disclaimer for Ionizing radiation, human health. 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; 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 ⁸⁾	MJ	4,00E+02	7,12E-01	4,69E+01	4,48E+02	6,98E-01	3,80E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,86E-02	8,45E-01	1,17E-01	-2,05E+01
Renew. PER as material	MJ	1,94E+02	0,00E+00	6,81E+00	2,01E+02	0,00E+00	-4,37E+01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	-1,49E+02	-7,87E+00	0,00E+00
Total use of renew. PER	MJ	5,95E+02	7,12E-01	5,37E+01	6,49E+02	6,98E-01	-4,37E+01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,86E-02	-1,49E+02	-7,75E+00	-2,05E+01
Non-re. PER as energy	MJ	6,39E+02	5,17E+01	2,54E+02	9,44E+02	5,69E+01	1,11E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,65E+00	6,94E+00	1,54E+01	-9,60E+01
Non-re. PER as material	MJ	1,22E+02	0,00E+00	-8,34E+00	1,13E+02	0,00E+00	-1,72E+01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	-9,12E+01	-4,80E+00	0,00E+00
Total use of non-re. PER	MJ	7,60E+02	5,17E+01	2,45E+02	1,06E+03	5,69E+01	-1,61E+01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,65E+00	-8,43E+01	1,06E+01	-9,60E+01
Secondary materials	kg	1,44E+00	1,73E-02	3,12E-01	1,77E+00	1,68E-02	2,33E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,58E-04	1,20E-02	5,73E-03	5,22E-01
Renew. secondary fuels	MJ	2,81E+00	1,82E-04	2,77E+00	5,58E+00	1,34E-04	1,38E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,63E-06	1,43E-04	1,78E-05	-1,24E-04
Non-ren. secondary fuels	MJ	3,23E-02	0,00E+00	0,00E+00	3,23E-02	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	m ³	2,00E+01	6,36E-03	1,66E+00	2,16E+01	7,12E-03	-2,82E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,14E-04	5,03E-03	2,47E-03	-8,69E-02

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	8,29E+00	5,90E-02	9,96E-01	9,35E+00	6,22E-02	4,00E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,19E-03	1,53E-01	9,35E-01	-1,04E+00
Non-hazardous waste	kg	7,14E+01	1,01E+00	2,15E+01	9,39E+01	1,01E+00	3,60E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,60E-02	2,57E+00	8,93E-01	-1,10E+01
Radioactive waste	kg	3,56E-03	3,56E-04	9,85E-04	4,90E-03	3,94E-04	3,95E-06	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,10E-05	3,90E-05	5,16E-06	-5,14E-04

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	1,51E+00	0,00E+00	0,00E+00	1,51E+00	0,00E+00	3,22E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	2,42E+00	0,00E+00	0,00E+00
Materials for energy rec	kg	6,76E-04	0,00E+00	2,90E+00	2,90E+00	0,00E+00	3,54E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	9,73E+00	0,00E+00	0,00E+00
Exported energy	MJ	6,32E-03	0,00E+00	2,62E+01	2,62E+01	0,00E+00	3,20E+01	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+A1, CML / 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 ₂ e	5,12E+01	3,46E+00	1,75E+01	7,22E+01	3,77E+00	1,39E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,09E-01	1,57E+00	3,37E+00	-1,18E+00
Ozone depletion Pot.	kg CFC ₁₁ e	7,82E-06	6,38E-07	1,08E-06	9,53E-06	7,05E-07	1,02E-08	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,00E-08	4,32E-08	2,04E-07	-3,35E-07
Acidification	kg SO ₂ e	3,09E-01	1,27E-02	7,59E-02	3,97E-01	2,31E-02	5,89E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,62E-04	2,50E-03	2,88E-03	-4,85E-02
Eutrophication	kg PO ₄ ³ e	8,37E-02	2,75E-03	1,98E-02	1,06E-01	3,80E-03	6,75E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	8,24E-05	4,19E-03	3,16E-03	-9,33E-03
POCP (“smog”)	kg C ₂ H ₄ e	2,16E-02	4,80E-04	3,79E-03	2,59E-02	7,37E-04	2,33E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,41E-05	1,37E-04	1,23E-04	-2,62E-03
ADP-elements	kg Sbe	4,49E-04	1,13E-05	4,09E-05	5,02E-04	8,18E-06	5,60E-07	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,50E-07	2,11E-05	1,87E-06	-2,91E-05
ADP-fossil	MJ	7,64E+02	5,17E+01	2,71E+02	1,09E+03	5,69E+01	1,11E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,65E+00	6,94E+00	1,54E+01	-9,42E+01

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	2,32E-04	1,13E-05	4,09E-05	2,84E-04	8,18E-06	5,60E-07	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,50E-07	2,11E-05	1,87E-06	-2,91E-05
Hazardous waste disposed	kg	7,46E+00	5,90E-02	1,31E+00	8,83E+00	6,22E-02	4,00E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,19E-03	1,53E-01	9,35E-01	-1,04E+00
Non-haz. waste disposed	kg	5,59E+01	1,01E+00	6,96E+00	6,38E+01	1,01E+00	3,60E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,60E-02	2,57E+00	8,93E-01	-1,10E+01
Air pollution	m³	8,76E+03	4,81E+02	1,26E+03	1,05E+04	6,43E+02	2,32E+01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,97E+01	1,36E+02	5,52E+01	-3,19E+03
Water pollution	m³	1,47E+02	4,54E+00	1,02E+02	2,53E+02	4,24E+00	1,05E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,16E-01	2,29E+02	2,32E+01	-4,34E+00

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 ⁹⁾	kg CO ₂ e	4,85E+01	3,50E+00	1,78E+01	6,98E+01	3,80E+00	1,42E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,10E-01	1,59E+00	3,35E+00	-1,35E+00

9) This indicator includes all greenhouse gases excluding biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product as defined by IPCC AR 5 (IPCC 2013). In addition, the characterisation factors for the flows - CH₄ fossil, CH₄ 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 CO₂ 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 Life-Cycle 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, the way 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
08.01.2025