ENVIRONMENTAL PRODUCT DECLARATION

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

ULTRAMAX – AMAX – Soil & Waste System

Aliaxis Poland Sp. z o.o.

EPD HUB, HUB-2000

Publishing date 16 October 2024, last updated on 16 October 2024, valid until 16 October 2029.

Created with One Click LCA

GENERAL INFORMATION

MANUFACTURER

Manufacturer	Aliaxis Poland Sp. z o.o.
Address	ul. Energetyczna 6 56-400 Oleśnica (Poland)
Contact details	biuro.pl@aliaxis.com
Website	www.aliaxis.pl

EPD STANDARDS, SCOPE AND VERIFICATION

Program operator	EPD Hub, hub@epdhub.com
Reference standard	EN 15804+A2:2019 und ISO 14025
PCR	EPD Hub Core PCR Version 1.1, 5 Dec 2023 EN 16904 Product Category Rules (PCR) for plastics piping systems inside buildings
Sector	Construction product
Category of EPD	Sister EPD
Parent EPD number	Hub-1999
Scope of the EPD	Cradle to gate with options, A4-A5, and modules C1-C4, D
EPD author	Lemonnier Elisa
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal verification ☑ External verification
EPD verifier	Magaly González Vázquez, 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	ULTRAMAX – AMAX – Soil & Waste System
Additional labels	-
Product reference	-
Place of production	Oleśnica, Poland
Period for data	01/01/2023 - 31/12/2023
Averaging in EPD	No averaging

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 m
Declared unit mass	1.019 kg
GWP-fossil, A1-A3 ($kgCO_2e$)	3.72E+00
GWP-total, A1-A3 ($kgCO_2e$)	3.41E+00
Secondary material, inputs (%)	7.61
Secondary material, outputs (%)	16.8
Total energy use, A1-A3 (kWh)	18.1
Net freshwater use, A1-A3 (m^3)	0.06

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

The Aliaxis Group

Driven by passion, we create sustainable, innovative solutions for water and power supply. We provide to people all over the planet innovating plastic piping systems by operating our business to stay future-proof for the growing needs of our customers.

We're local at heart and global in spirit!

We leverage the global perspective of the Aliaxis Group to support our local activities. The sum of local experiences allows us to create solutions beneficial to the customers around the world. We have over 100 distribution centers and more than 75 production plants in over 40 countries. Every day, over 15.500 of our team members passionately and responsibly create and deliver reliable solutions to our customers.

PRODUCT DESCRIPTION

The ULTRAMAX soil & waste pipes, expertly designed and completed with AMAX fittings, offers a high-quality solution for gravity drainage after EN 12056 standard within buildings. Key features include material construction from durable, corrosion resistant and lightweight PP-H (polypropylene homopolymer) together with PP-C (polypropylene copolymer), following the EN 1451-1 standard.

The multilayer technology used in ULTRAMAX pipes ensures strength and longevity without any mineral material additives. A noteworthy addition is the flame retardant added to the PP raw material, classifying the system as B1 according to DIN 4102-1. ULTRAMAX pipes feature a smooth, white-colored internal surface, preventing deposits from accumulating within the wastewater network and facilitating easier video inspection of the system. Available in various sizes, ULTRAMAX pipes and AMAX fittings cater to different needs, with pipe diameters ranging from Ø32 to Ø160 and lengths from 150 mm to 3 m, available as both single socket and double socketed version.

Further information can be found at www.aliaxis.it and www.aliaxis.pl.

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Fossil materials	95.4	Europe
Minerals	0	-
Bio-based materials	0	-
Metals (for bracketing)	4.6	Europe

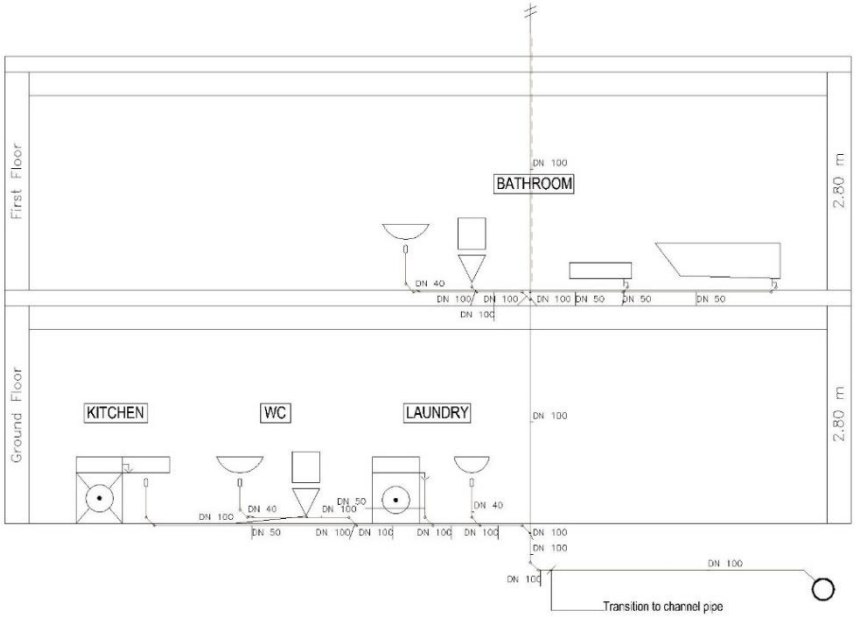
BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	0
Biogenic carbon content in packaging, kg C	0.0135

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 m
Mass per declared unit	1.019 kg
Functional unit	The functional unit represents 100 m² of a typical detached house, incorporating a bathroom, a separate WC, one kitchen and laundry room.
Reference service life	-



Functional unit representation

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	MND	MND	MND	MND	MND	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 pipes are made through co-extrusion. Co-extrusion involves running two or more extruders simultaneously to produce a single, multi-layered extruded pipe. The process starts with feeding raw materials into extruders where they are heated and melted. Each extruder feeds a different material into a co-extrusion die head. The die head combines these materials to create a multi-layered structure with distinct layers. Once sheared off the die face, the extruded pipe undergoes calibration and cooling to reach the desired dimensions. It then moves to a cutting station where it is cut into required

lengths. The pipe sections are passed to the socketing machines that create the sockets at the pipe ends through plastic deformation. Ring seals are inserted into these sockets. The finished product is then packed for storage and shipment. Our manufacturing process allows to reintegrate manufacturing losses with the use of re-granulated raw material. This process primarily involves 75- and 110-mm pipes. The amount of reintegrated material can represent a variable percentage of the composition of the PP soil & waste system products.

Fittings are manufactured through injection molding. The process begins with heating raw material until it melts. The molten material is then injected into a mold, which is shaped to match the specific design of the fitting. Once injected, the molten material quickly cools within the mold. As the material solidifies, it takes on the desired shape, including threads, grooves, and other essential features. After cooling, the mold opens, revealing the newly formed fitting. Ring seals are then inserted into the sockets. Once inspected and approved, the finished fitting is packed, ready for storage and shipment.

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 from manufacturing site to the building site corresponds to an average transport distance based on Aliaxis Poland sales. The transportation method used is lorry. The packaging waste are taken into account in the installation section (A5).

PRODUCT USE AND MAINTENANCE (B1-B7)

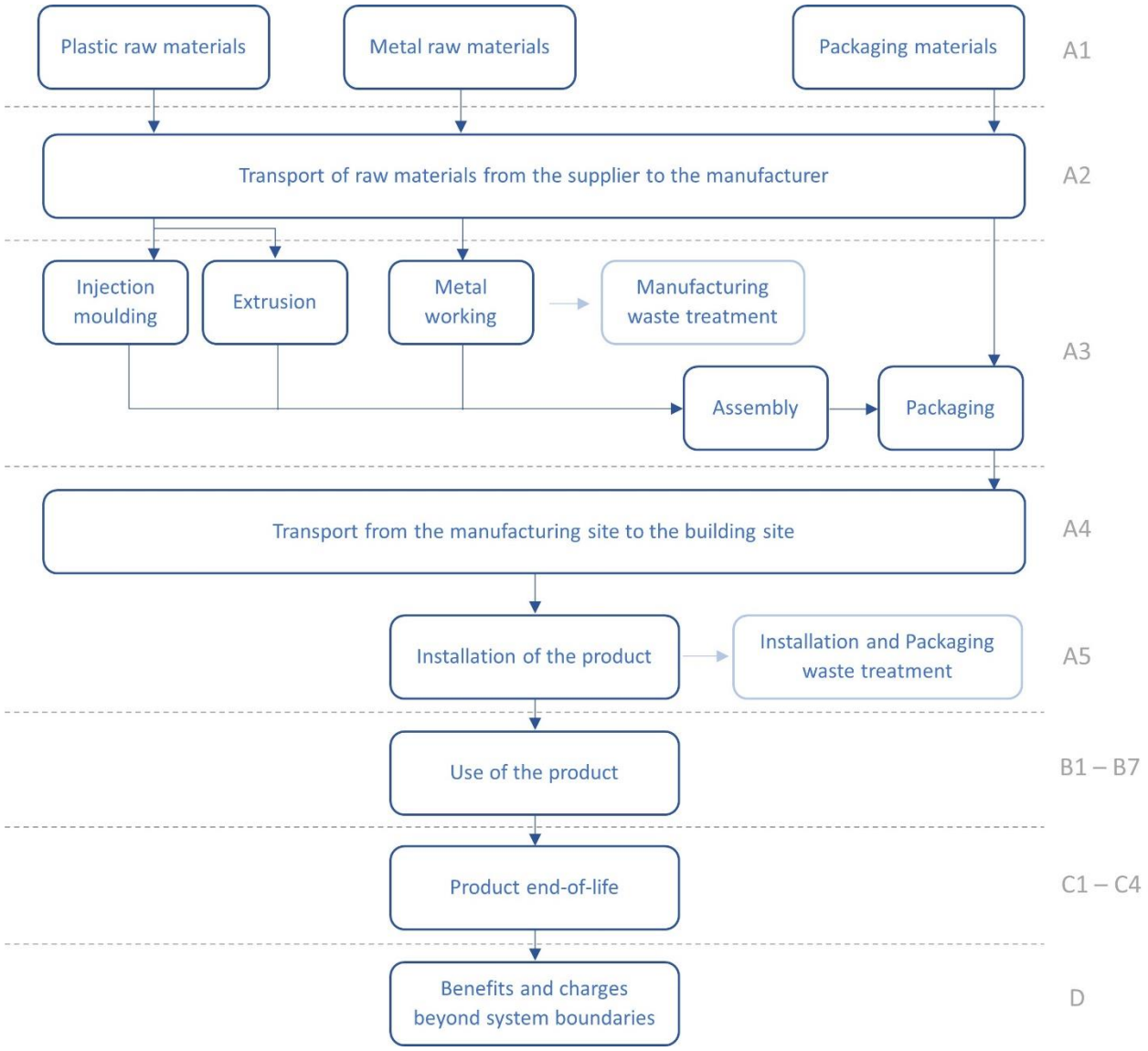
This EPD does not cover the use phase.
Air, soil, and water impacts during the use phase have not been studied.

PRODUCT END OF LIFE (C1-C4, D)

The end-of-life product materials are transported by lorry to several facilities: a recycling facility 800 km from the demolition site, an incineration facility 150 km away and a landfill facility 50 km away (C2). The PP is collected from the demolition site: 36.8% is sent for incineration, 18.3% is recycled and 44.9% is landfilled. The EPDM is collected from the demolition site: 45% is sent for incineration and 55% is landfilled. 100% of the steel is landfilled (C3 - C4).

The benefits and loads of PP recycling are considered in module D. The energy and heat produced by the incineration of EPDM, PP and of waste packaging materials are also taken into account in module D.

FLOW DIAGRAM



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	No allocation
Ancillary materials	No allocation
Manufacturing energy and waste	Allocation according to weight or volume

AVERAGES AND VARIABILITY

Type of average	No average
Averaging method	Not applicable

This EPD is product and factory specific and does not contain average calculations.

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_2e	2,30E+00	2,74E-01	8,40E-01	3,41E+00	7,08E-02	4,40E-01	MND	MND	MND	MND	MND	MND	MND	MNR	2,02E-02	9,41E-01	5,38E-02	-3,40E+00
GWP – fossil	kg CO_2e	2,30E+00	2,74E-01	1,15E+00	3,72E+00	7,08E-02	1,27E-01	MND	MND	MND	MND	MND	MND	MND	MNR	2,01E-02	9,41E-01	5,38E-02	-1,36E+00
GWP – biogenic	kg CO_2e	0,00E+00	0,00E+00	-3,13E-01	-3,13E-01	0,00E+00	3,13E-01	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	-2,05E+00
GWP – LULUC	kg CO_2e	8,45E-04	1,01E-04	8,60E-04	1,81E-03	2,61E-05	4,45E-06	MND	MND	MND	MND	MND	MND	MND	MNR	7,43E-06	3,63E-06	5,46E-06	3,30E-04
Ozone depletion pot.	kg CFC_{-11}e	7,94E-08	6,29E-08	5,71E-08	1,99E-07	1,63E-08	1,99E-09	MND	MND	MND	MND	MND	MND	MND	MNR	4,63E-09	8,54E-10	1,51E-09	-4,53E-08
Acidification potential	mol H^+e	9,11E-03	1,16E-03	7,16E-03	1,74E-02	3,00E-04	6,84E-05	MND	MND	MND	MND	MND	MND	MND	MNR	8,53E-05	1,25E-04	4,46E-05	-6,45E-03
EP-freshwater[2)]	kg Pe	5,17E-05	2,24E-06	1,13E-04	1,67E-04	5,80E-07	1,43E-07	MND	MND	MND	MND	MND	MND	MND	MNR	1,65E-07	1,21E-07	2,23E-07	-1,18E-04
EP-marine	kg Ne	1,52E-03	3,44E-04	1,02E-03	2,89E-03	8,91E-05	4,17E-05	MND	MND	MND	MND	MND	MND	MND	MNR	2,54E-05	5,79E-05	5,83E-05	-9,31E-04
EP-terrestrial	mol Ne	1,71E-02	3,80E-03	1,06E-02	3,15E-02	9,83E-04	2,60E-04	MND	MND	MND	MND	MND	MND	MND	MNR	2,80E-04	6,28E-04	1,61E-04	-1,05E-02
POCP ("smog")[3)]	kg NMVOCe	7,45E-03	1,21E-03	3,20E-03	1,19E-02	3,14E-04	7,91E-05	MND	MND	MND	MND	MND	MND	MND	MNR	8,95E-05	1,52E-04	6,34E-05	-3,27E-03
ADP-minerals & metals[4)]	kg Sbe	2,41E-03	6,41E-07	2,61E-06	2,41E-03	1,66E-07	2,77E-08	MND	MND	MND	MND	MND	MND	MND	MNR	4,72E-08	3,66E-08	1,75E-08	-3,16E-06
ADP-fossil resources	MJ	7,51E+01	4,11E+00	1,72E+01	9,64E+01	1,06E+00	1,54E-01	MND	MND	MND	MND	MND	MND	MND	MNR	3,03E-01	9,27E-02	1,17E-01	-2,51E+01
Water use[5)]	m^3e depr.	1,08E+00	1,84E-02	3,13E-01	1,41E+00	4,76E-03	9,30E-03	MND	MND	MND	MND	MND	MND	MND	MNR	1,35E-03	3,15E-02	7,16E-04	-1,91E-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	1,00E-07	3,15E-08	2,84E-08	1,60E-07	8,16E-09	1,04E-09	MND	MND	MND	MND	MND	MND	MND	MNR	2,32E-09	6,46E-10	8,53E-10	-5,59E-08
Ionizing radiation[6)]	kBq U235e	1,56E-01	1,96E-02	4,05E-02	2,16E-01	5,06E-03	7,95E-04	MND	MND	MND	MND	MND	MND	MND	MNR	1,44E-03	2,05E-04	5,76E-04	-1,34E-01
Ecotoxicity (freshwater)	CTUe	4,12E+01	3,70E+00	1,57E+01	6,06E+01	9,56E-01	2,14E-01	MND	MND	MND	MND	MND	MND	MND	MNR	2,72E-01	3,38E-01	2,52E-01	-1,40E+01
Human toxicity, cancer	CTUh	6,01E-09	9,08E-11	6,44E-10	6,74E-09	2,35E-11	1,05E-11	MND	MND	MND	MND	MND	MND	MND	MNR	6,69E-12	3,29E-11	4,33E-12	-4,45E-10
Human tox. non-cancer	CTUh	2,58E-08	3,66E-09	1,65E-08	4,59E-08	9,47E-10	4,37E-10	MND	MND	MND	MND	MND	MND	MND	MNR	2,69E-10	1,23E-09	1,08E-10	-1,22E-08
SQP[7)]	-	3,95E+00	4,73E+00	2,24E+01	3,11E+01	1,22E+00	1,75E-01	MND	MND	MND	MND	MND	MND	MND	MNR	3,49E-01	3,11E-02	2,75E-01	-6,11E+00

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	1,85E+00	4,63E-02	2,63E+00	4,53E+00	1,20E-02	8,44E-03	MND	MND	MND	MND	MND	MND	MND	MNR	3,41E-03	2,40E-03	2,34E-03	-1,84E+00
Renew. PER as material	MJ	0,00E+00	0,00E+00	2,73E+00	2,73E+00	0,00E+00	-2,73E+00	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	1,78E+01
Total use of renew. PER	MJ	1,85E+00	4,63E-02	5,36E+00	7,26E+00	1,20E-02	-2,72E+00	MND	MND	MND	MND	MND	MND	MND	MNR	3,41E-03	2,40E-03	2,34E-03	1,60E+01
Non-re. PER as energy	MJ	4,24E+01	4,11E+00	1,41E+01	6,06E+01	1,06E+00	1,54E-01	MND	MND	MND	MND	MND	MND	MND	MNR	3,03E-01	9,28E-02	1,17E-01	-1,89E+01
Non-re. PER as material	MJ	3,46E+01	0,00E+00	3,12E+00	3,78E+01	0,00E+00	-3,12E+00	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	-1,89E+01	-1,57E+01	9,42E+00
Total use of non-re. PER	MJ	7,70E+01	4,11E+00	1,72E+01	9,83E+01	1,06E+00	-2,96E+00	MND	MND	MND	MND	MND	MND	MND	MNR	3,03E-01	-1,89E+01	-1,56E+01	-9,45E+00
Secondary materials	kg	7,75E-02	1,14E-03	7,21E-02	1,51E-01	2,95E-04	7,31E-05	MND	MND	MND	MND	MND	MND	MND	MNR	8,40E-05	1,53E-04	4,10E-05	2,25E-01
Renew. secondary fuels	MJ	8,15E-04	1,15E-05	6,87E-02	6,96E-02	2,98E-06	8,29E-07	MND	MND	MND	MND	MND	MND	MND	MNR	8,48E-07	9,62E-07	1,52E-06	-2,26E-02
Non-ren. secondary fuels	MJ	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	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m^3	2,81E-02	5,32E-04	2,64E-02	5,50E-02	1,38E-04	7,89E-05	MND	MND	MND	MND	MND	MND	MND	MNR	3,92E-05	1,49E-04	1,24E-04	-8,95E-03

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	2,89E-01	5,45E-03	1,04E-01	3,99E-01	1,41E-03	2,32E-04	MND	MND	MND	MND	MND	MND	MND	MNR	4,01E-04	0,00E+00	0,00E+00	-7,52E-02
Non-hazardous waste	kg	2,79E+00	8,95E-02	4,91E+00	7,79E+00	2,32E-02	2,34E-01	MND	MND	MND	MND	MND	MND	MND	MNR	6,59E-03	3,63E-01	4,85E-01	-6,35E+00
Radioactive waste	kg	5,89E-05	2,75E-05	1,72E-05	1,04E-04	7,11E-06	5,88E-07	MND	MND	MND	MND	MND	MND	MND	MNR	2,02E-06	0,00E+00	0,00E+00	-5,11E-05

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	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	0,00E+00	0,00E+00	9,60E-02	9,60E-02	0,00E+00	2,58E-01	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	3,40E-01	0,00E+00	0,00E+00
Materials for energy rec	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	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	7,60E+00	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	4,40E+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_2e	2,19E+00	2,71E-01	1,13E+00	3,59E+00	7,01E-02	1,43E-01	MND	MND	MND	MND	MND	MND	MND	MNR	1,99E-02	9,41E-01	6,01E-02	-1,32E+00
Ozone depletion Pot.	kg CFC_{-11}e	6,68E-08	4,98E-08	4,58E-08	1,62E-07	1,29E-08	1,61E-09	MND	MND	MND	MND	MND	MND	MND	MNR	3,67E-09	7,50E-10	1,20E-09	-3,77E-08
Acidification	kg SO_2e	7,59E-03	9,00E-04	6,07E-03	1,46E-02	2,33E-04	5,16E-05	MND	MND	MND	MND	MND	MND	MND	MNR	6,63E-05	8,81E-05	3,40E-05	-5,41E-03
Eutrophication	kg PO_4^3e	2,59E-03	2,05E-04	3,66E-03	6,46E-03	5,30E-05	4,97E-04	MND	MND	MND	MND	MND	MND	MND	MNR	1,51E-05	7,61E-05	2,02E-03	-4,29E-03
POCP (“smog”)	kg C_2H_4e	4,69E-04	3,51E-05	2,76E-04	7,80E-04	9,09E-06	6,50E-06	MND	MND	MND	MND	MND	MND	MND	MNR	2,59E-06	1,65E-06	1,16E-05	-2,68E-04
ADP-elements	kg Sbe	2,43E-03	6,21E-07	2,53E-06	2,44E-03	1,61E-07	2,61E-08	MND	MND	MND	MND	MND	MND	MND	MNR	4,57E-08	3,05E-08	1,69E-08	-3,11E-06
ADP-fossil	MJ	7,51E+01	4,11E+00	1,72E+01	9,64E+01	1,06E+00	1,54E-01	MND	MND	MND	MND	MND	MND	MND	MNR	3,03E-01	9,27E-02	1,17E-01	-2,51E+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	2,43E-03	6,21E-07	2,53E-06	2,44E-03	1,61E-07	2,61E-08	MND	MND	MND	MND	MND	MND	MND	MNR	4,57E-08	3,05E-08	1,69E-08	-3,11E-06
Hazardous waste disposed	kg	2,89E-01	5,45E-03	1,04E-01	3,99E-01	1,41E-03	2,32E-04	MND	MND	MND	MND	MND	MND	MND	MNR	4,01E-04	0,00E+00	0,00E+00	-7,52E-02
Non-haz. waste disposed	kg	2,79E+00	8,95E-02	4,91E+00	7,79E+00	2,32E-02	2,34E-01	MND	MND	MND	MND	MND	MND	MND	MNR	6,59E-03	3,63E-01	4,85E-01	-6,35E+00
Air pollution	m^3	3,63E+02	4,91E+01	2,68E+02	6,80E+02	1,27E+01	2,42E+00	MND	MND	MND	MND	MND	MND	MND	MNR	3,61E+00	4,81E+00	1,39E+00	-1,99E+02
Water pollution	m^3	1,63E+01	2,89E-01	5,47E+00	2,21E+01	7,49E-02	5,66E-01	MND	MND	MND	MND	MND	MND	MND	MNR	2,13E-02	6,85E-01	2,52E+00	-3,85E+01

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

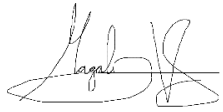
I hereby confirm that, following detailed examination, I have not established any relevant deviations by the studied Environmental Product Declaration (EPD), its LCA and project report, in terms of the data collected and used in the LCA calculations, the way the LCA-based calculations have been carried 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.

Magaly González Vázquez, as an authorized verifier acting for EPD Hub Limited
16.10.2024



VERIFIED ISO 14025