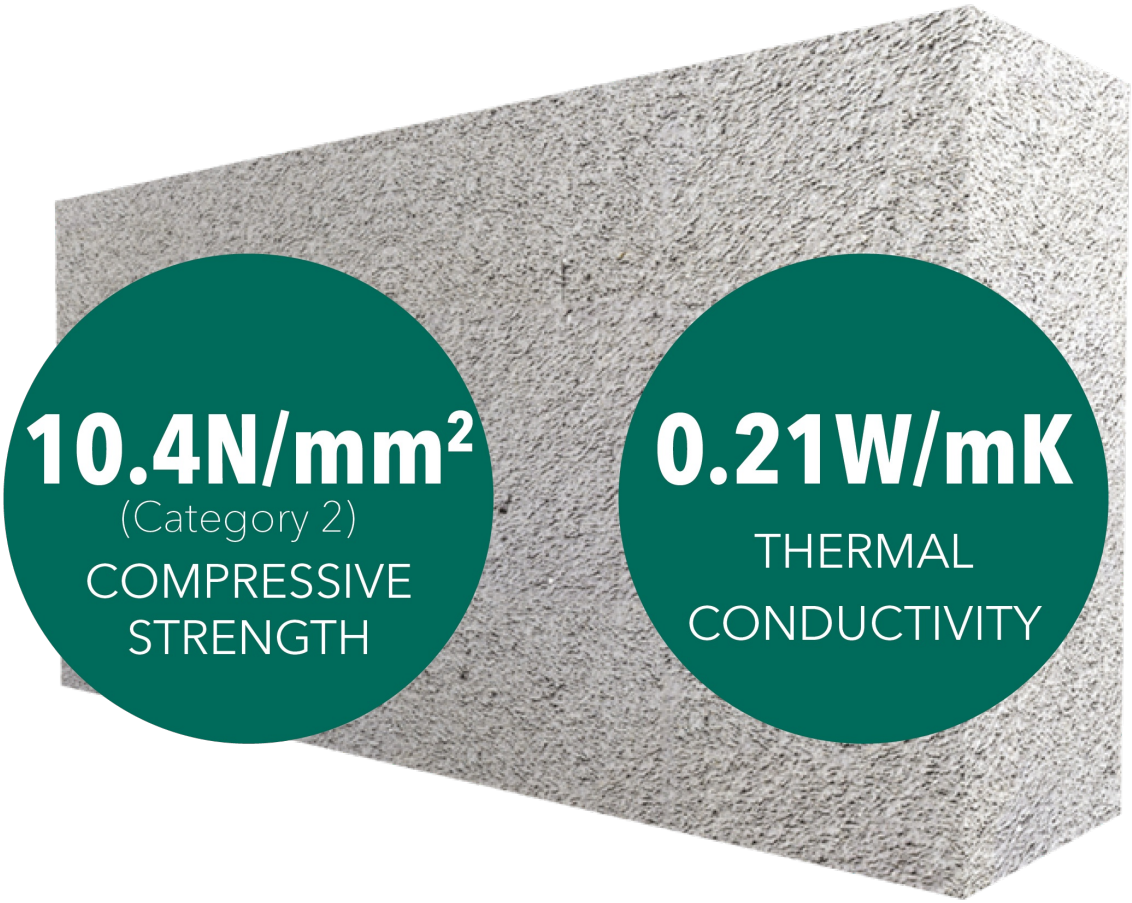
ENVIRONMENTAL PRODUCT DECLARATION

In accordance with ISO 14025 and EN15804+A2

Aircrete block High Ten



AIRCRETE HIGH TEN BLOCKS

Owner of the declaration:
MANNOKBUILD

Product:
Aircrete block High Ten

Declared unit:
1 tonne

This declaration is based on Product Category Rules:
EN 15804:2012+A2:2019, EPD Ireland PCR Part A, Version 2.1, 2022
I.S. EN 16757:2022, PCR for concrete and concrete elements.

Program operator:
EPD Ireland - Irish Green Building Council

Declaration number:
EPDIE-24-148

Issue date:
05.09.2024

Valid to:
04.09.2029

General information

Product

Aircrete block High Ten

Owner of the declaration:

MANNOKBUILD
Contact person:
Phone: 08000 322 122
e-mail: info@mannokbuild.com

Program operator:

EPD Ireland - Irish Green Building Council
19 Mountjoy Square, Dublin D01 E8P5
Phone: +353 (01) 6815862
web: https://www.igbc.ie/epd-home/

Manufacturer:

MANNOKBUILD

Declaration number:

EPDIE-24-148

Place of production:

MANNOKBUILD
187 Ballyconnell Road
BT92 9GP Derrylin, Enniskillen, Co. Fermanagh, Northern Ireland

This declaration is based on Product Category Rules:

EN 15804:2012+A2:2019, EPD Ireland PCR Part A, Version 2.1, 2022
I.S. EN 16757:2022, PCR for concrete and concrete elements.

Statement of liability:

The owner of the declaration shall be liable for the underlying information and evidence. The EPD Program operator shall not be liable with respect to manufacturer information, life cycle assessment data and evidences.

Type of EPD

Specific product EPD

Issue date:

05.09.2024

Declared unit:

1 tonne Aircrete block High Ten

Valid to:

04.09.2029

Scope of the EPD:

A1,A2,A3,A4,A5,B1,B2,B3,B4,B5,B6,B7,C1,C2,C3,C4,D

Year of study:

2023

Functional unit:

One tonne (1,000kg) of precast concrete block, at the factory gate

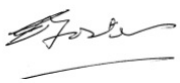
Comparability:

Environmental Product Declarations from different programmes may not be directly comparable if not compliant with EN 15804:2012+A2:2019. Comparability is further dependent on the specific product category rules, system boundaries and allocations, and background data sources. See clause 5.3 of EN 15804:2012+A2:2019

LCA consultant or person responsible for LCA:
EcoReview, Peter Seymour

Verification:

Independent verification of the declaration and data, according to ISO14025:2010



Third party verifier:
Chris Foster, EuGeos SRL

Approved:

SIGNATURE OF PROGRAMME OPERATOR

Pat Barry, CEO - Irish Green Building Council

Product

Product description:

The Aircrete blocks are high performance thermal blocks which are precision manufactured using autoclaved aerated concrete (AAC). They are lightweight and provide superior thermal performance. They are used in housing and commercial/industrial construction applications, for construction of external walls, rising foundation walls, internal partition walls, and party walls.

Product specification:

The Aircrete thermal blocks are manufactured in accordance with I.S. EN 771-4:2011+A1:2016, Specification for masonry units - Part 4: Autoclaved aerated concrete masonry units.

Further technical details on the blocks can be found at: https://mannokbuild.com/aircrete-thermal-blocks/what-are-aircrete-thermal-blocks/

Technical data:

The main material components of the Aircrete lightweight thermal blocks are cement, sand, lime, aluminium powder and water. The density of the High Ten block is 830 kg/m3.

Market/Geographical Area:

The main market for the Mannok Aircrete blocks is housing and commercial buildings. The blocks are supplied to the markets in Northern Ireland, Great Britain and the Republic of Ireland.

Reference service life, product

No Reference Service Life is defined. The blocks are expected to be fit for use and be durable for 60+ years.

Reference service life, building or construction works

LCA: Calculation rules

Declared unit:

1 tonne Aircrete block High Ten

kg per Declared unit 1000

Cut-off criteria:

All relevant inputs and outputs - like emissions, energy and materials - have been taken into account in this LCA, and in accordance with EN15804+A2:2019. The study covers at least 95% of the materials and energy per module and at least 99% of the total use of materials and energy of each unit process. Long term emissions have been excluded from the study.

Allocation:

The measurement of environmental impacts in this EPD uses the LCIA methodologies recommended for PEF 3.1. In this EPD, the waste processes are allocated in the relevant module. In the case of the use of secondary materials or energy recovered from secondary fuels, the system boundary between the system under study and the previous system (providing the secondary materials) is set where outputs of the previous system, e.g. materials, products, building elements or energy, reach the end-of-waste state. The modularity and the polluter payer principles have been followed.

Allocation of energies such as diesel, propane and electricity types and amounts to the various manufacturing processes has been provided by the manufacturer, along with production waste and direct emissions; allocation of impacts to the products is based on the product composition mass.

Data quality:

The data Quality Levels, according to Table E.1 of EN 15804 +A2, Annex E, are:

Geographical representativeness: Very good: the production location of the blocks lies within the region for which the relevant Ecoinvent (version 3.8) environmental records have been selected.

Time representativeness: Very good: the data relating to the manufacturing of the blocks, and the data relating to the background processes for environmental impacts are recent (<2 years). The LCA dataset for the cement is from 2021 and is of the specific cement used in production.

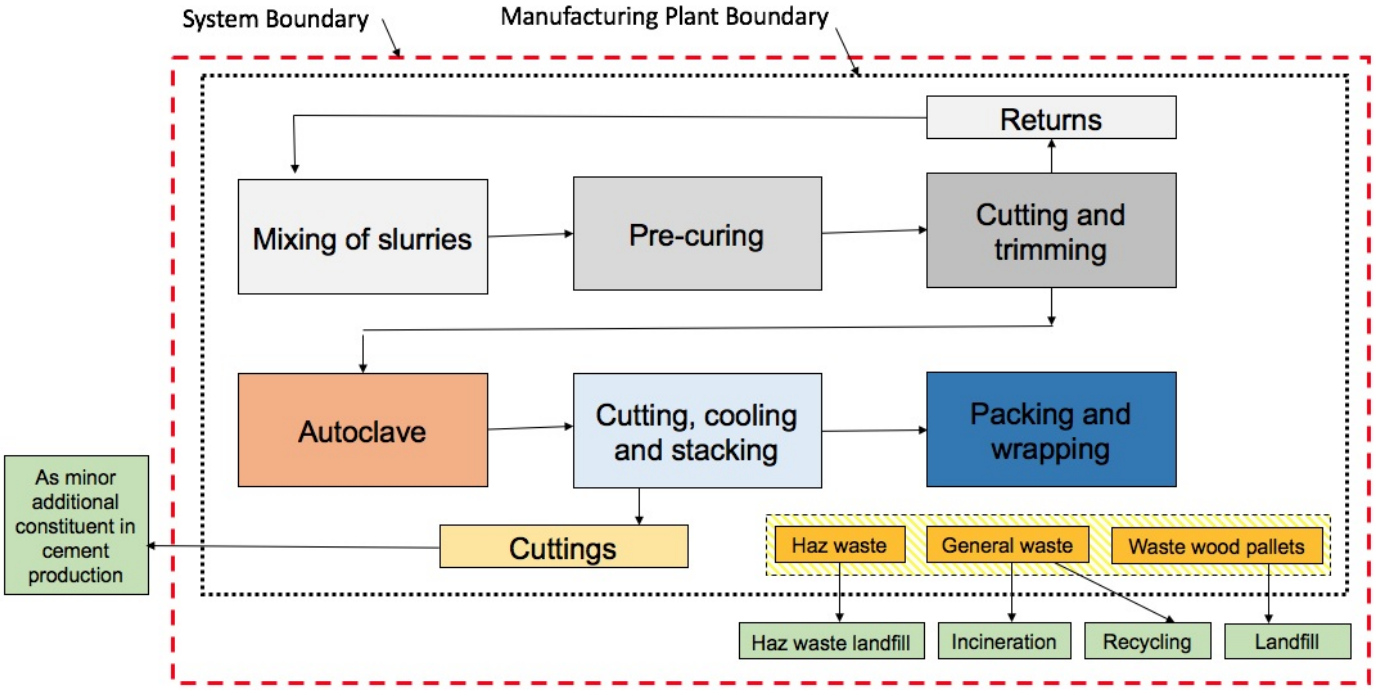
Technical representativeness: Very good: the processes and energies used in the process have been modelled exactly as described by Mannok Aircrete blocks and are based directly on the production data supplied by Mannok for the Aircrete block production.

Scope and type of EPD (X = Module declared; ND = Module not declared)

Product stage			Construction installation stage		Use stage							End of life stage				Beyond the system boundaries
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-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

System boundary:

This LCA covers the Product (A1, A2 and A3), Transport to site (A4), Construction Process (A5), Use (B1 to B7), End of Life (C1 to C4) and Benefits/loads beyond the system boundary (D) Stages, as indicated above. This is termed: "Cradle to grave, and module D". Specific details of the Product Stage (A1 to A3) are illustrated in the flow diagram below.



Additional technical information:

Electricity modelling

The fuel mix for the electricity supplied is 37,6% natural gas, and 62,4% renewable (onshore wind).

The CO2 intensities of these two types are: Natural gas 0,66 kg CO2 per kWh, and Renewable (onshore wind) 0,033 kg CO2 per kWh, (values from Ecoinvent v 3.8 values, market for electricity, wind (onshore)/natural gas, low voltage | Cutoff, U - RoW).

Thus the electricity used has a mean CO2 (GWPt) per kWh value of 0,268 kg CO2 per kWh.

LCA: Scenarios and additional technical information

The following information describe the scenarios in the different modules of the EPD.

A4. Transport to customer
The A4 scenario used in this EPD is based on the blocks being being manufactured in Co. Fermanagh, Northern Ireland, and transported to a location in Great Britain over a distance of 371 km by road, and 202 km by sea. This is the mean of 5 different routes used. The capacity utilisation of road freight is 46%. The density of the transported goods is 480 kg/m3.

A5. Installation
Installation losses are 5% of block weight. Installation losses are assumed to be re-used on site as incidental loose fill.

As the declared unit for the concrete block products is one tonne (1,000kg) of precast concrete block, at the factory gate – this means that 50 kg of this 1,000 kg are production losses, thus 950 kg of product ends up in the structure. Calculations of the impacts in the B, C and D stages are based on the 950 kg mass per declared unit.

B. Use Stage
In the Use Stage, carbonation is calculated, and assigned to module B1.

B1. Use
Carbonation is calculated at 17,6 kg CO2 per tonne of installed blocks, according to Appendix G of IS EN16757:2022, section G.3.2.

The remaining Use Stage modules, B2 - B7, are considered to have no impacts, and their impact values are zero.

C. End of Life Scenarios, Module
It is assumed that 50% of the blocks are re-used on site as incidental construction fill, and 50% are transported off-site for use as incidental construction fill on other construction sites.

C1. De-construction demolition
It is assumed that the blocks are removed with minimal energy, and thus zero energy or materials are used in C1.

C2. Transport
In the transport phase C2, it is assumed that 50% of the blocks travel 50km to the point of re-use as incidental fill in other construction projects.

C3. Waste processing
The energy used for crushing on site of one tonne of blocks is assumed to be 0,09 litres of diesel per tonne.

Calculation of impacts of C2 and C3 account for 95% of the product – to reflect the 5% production losses on installation.

C4. Disposal
These is no disposal of the blocks at end of life. C4 is zero.

D. Reuse – Recovery – Recycling potential
Benefits beyond the system boundary arise from 95% of the mass of the blocks replacing the production of virgin aggregates, for use as incidental construction fill.

Avoided electricity generation from incineration of pallets is based on generating 28 kWh electricity per declared unit (from NCV of wood of 17 MJ/kg, and an efficiency of conversion of energy to electricity of 25%).

Biogenic Carbon
Biogenic carbon in the product system is effectively all contained in the wood pallets. The value of biogenic C per DU is 9.2 kg C per DU, at the factory gate.

There is a small deviations in the overall biogenic CO2 balance across the full life cycle of the products (in the order of 0,6 kg CO2), resulting from small deviations within the datasets used.

Database used: Ecoinvent v 3.8

LCA tool used: Ecochain Helix v 4.3.1

LCA: Results

The LCA results are presented below for the declared unit defined on page 2 of the EPD document.

Environmental impact										
Indicator		Unit	A1	A2	A3	A4	A5	B1	B2	B3
	GWP-total	kg CO_2 -eq	2.33E+02	3.90E+00	9.16E+00	6.24E+01	4.75E+01	-1.76E+01	0.00E+00	0.00E+00
	GWP-fossil	kg CO_2 -eq	2.67E+02	3.89E+00	9.10E+00	6.23E+01	1.43E+01	-1.76E+01	0.00E+00	0.00E+00
	GWP-biogenic	kg CO_2 -eq	-3.38E+01	3.55E-03	5.64E-02	5.49E-02	3.31E+01	0.00E+00	0.00E+00	0.00E+00
	GWP-luluc	kg CO_2 -eq	1.39E-01	1.56E-03	1.48E-03	2.55E-02	7.16E-03	0.00E+00	0.00E+00	0.00E+00
	ODP	kg CFC11 -eq	9.39E-06	9.02E-07	1.06E-06	1.44E-05	5.75E-07	0.00E+00	0.00E+00	0.00E+00
	AP	mol H+ -eq	6.43E-01	1.11E-02	2.83E-02	2.33E-01	3.78E-02	0.00E+00	0.00E+00	0.00E+00
	EP-FreshWater	kg P -eq	3.03E-03	2.78E-05	4.85E-05	4.38E-04	1.60E-04	0.00E+00	0.00E+00	0.00E+00
	EP-Marine	kg N -eq	1.48E-01	2.20E-03	8.67E-03	4.93E-02	9.76E-03	0.00E+00	0.00E+00	0.00E+00
	EP-Terrestial	mol N -eq	1.69E+00	2.45E-02	9.51E-02	5.49E-01	1.10E-01	0.00E+00	0.00E+00	0.00E+00
	POCP	kg NMVOC -eq	4.76E-01	9.42E-03	2.89E-02	1.90E-01	3.05E-02	0.00E+00	0.00E+00	0.00E+00
	ADP-minerals&metals[1]	kg Sb-eq	2.42E-04	1.38E-05	1.15E-04	2.17E-04	1.91E-05	0.00E+00	0.00E+00	0.00E+00
	ADP-fossil[1]	MJ	1.17E+03	5.90E+01	1.34E+02	9.40E+02	7.05E+01	0.00E+00	0.00E+00	0.00E+00
	WDP[1]	m^3	6.73E+01	1.80E-01	7.45E-01	2.83E+00	3.46E+00	0.00E+00	0.00E+00	0.00E+00

Indicator		Unit	B4	B5	B6	B7	C1	C2	C3	C4	D
	GWP-total	kg CO_2 -eq	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.07E+00	2.85E-01	0.00E+00	-1.49E+01
	GWP-fossil	kg CO_2 -eq	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.06E+00	2.85E-01	0.00E+00	-1.47E+01
	GWP-biogenic	kg CO_2 -eq	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.89E-03	1.07E-04	0.00E+00	-2.24E-01
	GWP-luluc	kg CO_2 -eq	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.40E-03	2.84E-05	0.00E+00	-1.26E-02
	ODP	kg CFC11 -eq	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.14E-06	6.08E-08	0.00E+00	-1.08E-06
	AP	mol H+ -eq	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.43E-02	2.96E-03	0.00E+00	-9.68E-02
	EP-FreshWater	kg P -eq	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.14E-05	9.44E-07	0.00E+00	-2.28E-04
	EP-Marine	kg N -eq	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.73E-03	1.31E-03	0.00E+00	-2.63E-02
	EP-Terrestial	mol N -eq	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.05E-02	1.44E-02	0.00E+00	-3.51E-01
	POCP	kg NMVOC -eq	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.17E-02	3.95E-03	0.00E+00	-7.94E-02
	ADP-minerals&metals[1]	kg Sb-eq	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.32E-05	1.46E-07	0.00E+00	-1.04E-04
	ADP-fossil[1]	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.59E+01	3.90E+00	0.00E+00	-2.20E+02
	WDP[1]	m^3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.52E-01	6.11E-03	0.00E+00	-4.83E+00

GWP-total = Global 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 = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment: EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption

"Reading example: 9,0 E-03 = 9,0*10-3 = 0,009"
*INA Indicator Not Assessed

1. The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator

Remarks to environmental impacts

Additional environmental impact indicators

Indicator		Unit	A1	A2	A3	A4	A5	B1	B2	B3
	PM	Disease incidence	3.64E-06	3.13E-07	4.40E-07	4.91E-06	2.59E-07	0.00E+00	0.00E+00	0.00E+00
	IRP[2]	kgBq U235 -eq	3.28E+00	2.56E-01	1.07E-01	4.08E+00	1.84E-01	0.00E+00	0.00E+00	0.00E+00
	ETP-fw[1]	CTUe	2.02E+03	4.63E+01	9.42E+01	7.34E+02	1.13E+02	0.00E+00	0.00E+00	0.00E+00
	HTP-c[1]	CTUh	6.62E-08	1.49E-09	5.13E-09	2.43E-08	4.48E-09	0.00E+00	0.00E+00	0.00E+00
	HTP-nc[1]	CTUh	1.30E-06	4.68E-08	9.40E-08	7.36E-07	1.14E-07	0.00E+00	0.00E+00	0.00E+00
	SQP[1]	dimensionless	3.52E+03	4.11E+01	1.75E+01	6.42E+02	1.80E+02	0.00E+00	0.00E+00	0.00E+00

Indicator		Unit	B4	B5	B6	B7	C1	C2	C3	C4	D
	PM	Disease incidence	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.44E-07	7.92E-08	0.00E+00	-9.81E-07
	IRP[2]	kgBq U235 -eq	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.30E-01	1.66E-02	0.00E+00	-9.33E-01
	ETP-fw[1]	CTUe	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.19E+01	2.28E+00	0.00E+00	-2.36E+03
	HTP-c[1]	CTUh	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.24E-09	8.80E-11	0.00E+00	-5.11E-09
	HTP-nc[1]	CTUh	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.99E-08	1.66E-09	0.00E+00	-1.51E-07
	SQP[1]	dimensionless	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.49E+01	4.97E-01	0.00E+00	-1.38E+02

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 = Potential Soil Quality Index (dimensionless)

"Reading example: 9,0 E-03 = 9,0*10-3 = 0,009"
*INA Indicator Not Assessed

1. The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator
2. This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator.

Resource use

Indicator		Unit	A1	A2	A3	A4	A5	B1	B2	B3
	PERE	MJ	3.19E+02	8.44E-01	7.15E+01	1.33E+01	3.99E+01	0.00E+00	0.00E+00	0.00E+00
	PERM	MJ	4.05E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	PERT	MJ	7.24E+02	8.44E-01	7.15E+01	1.33E+01	3.99E+01	0.00E+00	0.00E+00	0.00E+00
	PENRE	MJ	1.24E+03	6.27E+01	1.47E+02	9.98E+02	7.51E+01	0.00E+00	0.00E+00	0.00E+00
	PENRM	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	PENRT	MJ	1.24E+03	6.27E+01	1.47E+02	9.98E+02	7.51E+01	0.00E+00	0.00E+00	0.00E+00
	SM	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
	RSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	NRSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	FW	m^3	1.78E+00	6.68E-03	2.01E-02	1.05E-01	9.53E-02	0.00E+00	0.00E+00	0.00E+00

Indicator		Unit	B4	B5	B6	B7	C1	C2	C3	C4	D
	PERE	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.28E+00	2.20E-02	0.00E+00	-4.62E+01
	PERM	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	PERT	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.28E+00	2.20E-02	0.00E+00	-4.62E+01
	PENRE	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.05E+01	4.15E+00	0.00E+00	-2.35E+02
	PENRM	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	PENRT	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.05E+01	4.15E+00	0.00E+00	-2.35E+02
	SM	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
	RSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	NRSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	FW	m^3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.61E-03	2.23E-04	0.00E+00	-1.05E-01

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 materials; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Net use of fresh water

"Reading example: 9,0 E-03 = 9,0*10-3 = 0,009"
*INA Indicator Not Assessed

End of life - Waste

Indicator		Unit	A1	A2	A3	A4	A5	B1	B2	B3
	HWD	kg	9.58E-04	1.54E-04	2.09E-04	2.41E-03	1.19E-04	0.00E+00	0.00E+00	0.00E+00
	NHWD	kg	9.05E+00	3.09E+00	7.09E-01	4.80E+01	7.96E-01	0.00E+00	0.00E+00	0.00E+00
	RWD	kg	4.43E-03	3.99E-04	1.57E-04	6.36E-03	2.51E-04	0.00E+00	0.00E+00	0.00E+00

Indicator		Unit	B4	B5	B6	B7	C1	C2	C3	C4	D
	HWD	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.03E-04	1.07E-05	0.00E+00	-1.33E-04
	NHWD	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.22E+00	5.21E-03	0.00E+00	-8.74E-01
	RWD	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.08E-04	2.70E-05	0.00E+00	-1.22E-03

HWD = Hazardous waste disposed; NHWD = Non-hazardous waste disposed; RWD = Radioactive waste disposed

"Reading example: 9,0 E-03 = 9,0*10-3 = 0,009"
*INA Indicator Not Assessed

End of life - Output flow

Indicator		Unit	A1	A2	A3	A4	A5	B1	B2	B3
	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
	MFR	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
	MER	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	EEE	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	EET	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Indicator		Unit	B4	B5	B6	B7	C1	C2	C3	C4	D
	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
	MFR	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
	MER	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	EEE	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	EET	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported energy electrical; EET = Exported energy thermal

"Reading example: 9,0 E-03 = 9,0*10-3 = 0,009"
*INA Indicator Not Assessed

Biogenic Carbon Content

Indicator	Unit	At the factory gate
Biogenic carbon content in product	kg C	0.00E+00
Biogenic carbon content in accompanying packaging	kg C	9.20E+00

Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO2

Additional requirements

Dangerous substances

None of the substances contained in the product are listed in the “Candidate List of Substances of Very High Concern for authorisation”, or they do not exceed the limit for registration with the European Chemicals Agency.

Mandatory additional information on release of dangerous substances to indoor air, soil and water.

Bibliography

[1] EN 15804:2012+A2:2019: Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products EN 15804:2012+A2:2019.

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[4] Ecochain Helix v 4.3.1, 2024, web: http://app.Ecochain.com

[5] Ecoinvent v 3.8

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