ENVIRONMENTAL PRODUCT DECLARATION

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

Testifire® XTR2 All-in-one Connected Smoke/Heat Detector Test Kit and telescopic pole
No Climb Products Ltd., trading as Detectortesters

EPD HUB, HUB-3239
Published on 02.05.2025, last updated on 02.05.2025, valid until 01.05.2030

GENERAL INFORMATION

MANUFACTURER

Manufacturer	No Climb Products Ltd, trading as Detectortesters
Address	Edison House 163 Dixons Hill Road Welham Green Hertfordshire AL9 7JE United Kingdom
Contact details	sales@detectortesters.com
Website	https://detectortesters.com

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
Sector	Construction product
Category of EPD	Third party verified EPD
Scope of the EPD	Cradle to gate with options, A4-B2, B6 and modules C1-C4, D
EPD author	George Kelly (Blue Marble Environmental Partnerships Ltd)
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal verification ☑ External verification
EPD verifier	Abderazak Guiz, 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	Testifire® XTR2 All-in-one Connected Smoke/Heat Detector Test Kit and telescopic pole (Solo® 100)
Additional labels	-
Product reference	TESTIFIRE-XTR2-XXX
Place of production	Hatfield, UK
Period for data	25/11/2023 to 24/11/2024
Averaging in EPD	No averaging
Variation in GWP-fossil for A1-A3	NA %

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 Unit
Declared unit mass	4.216 kg
GWP-fossil, A1-A3 ($kgCO_2e$)	3.64E+01
GWP-total, A1-A3 ($kgCO_2e$)	3.51E+01
Secondary material, inputs (%)	5.97
Secondary material, outputs (%)	63.1
Total energy use, A1-A3 (kWh)	157
Net freshwater use, A1-A3 (m^3)	0.43

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

As the world's only ISO 9001 and ISO 14001 Approved Manufacturer and Designers of detector testing products, Detectortesters offers advanced test technologies for fire detectors. We offer an unrivalled choice of solutions for single and multi-sensor detectors to meet specific market needs and compliance requirements. We know the importance of testing and understand not every site is the same, that's why we never stand still – always looking to challenge the norm and develop new solutions.

A lot has changed since the company was founded in 1965, we've grown in virtually every aspect with a greater product range, larger premises and a 100+ strong team that work together to make the business successful.

Our vision is to provide innovative, connected solutions that protect people's lives and property. We are committed to delivering excellence and making life safer, simpler and easier for our customers.

All our products are approved by the world's leading detector manufacturers, ensuring they are safe to use and present no risk to the life of the detector.

PRODUCT DESCRIPTION

Testifire® XTR2 All-in-one Connected Smoke/Heat Detector Test Kit and Solo® Access Poles. An all-in-one smoke and heat testing solution, with different modes for different sensor types, including smoke, heat, hi-heat, combined, sequential and delayed start test modes. They are designed to work with all detector brands and models, with addressable and conventional fire alarm systems.

Full functionality of Testifire XTR2 requires the use of the DT Connect App and Cloud Portal. Prior to first use, Testifire XTR2 must be registered and paired to the app in order to function.

The Testifire-XTR2 Kit includes:

- 1 x Testifire-XTR2-HEAD-001
- 1 x Testifire-BP-001 Li-ion Battery
- 1 x Testifire-GEN-001 Smoke Generator
- 1 x Testifire-CHAK-001 Charger Kit
- 1 x TES3 Smoke Cartridge

Further information can be found at https://detectortesters.com.

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	16%	Global
Minerals	1%	Global
Fossil materials	61%	Global
Bio-based materials	22%	Global

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	0.330
Biogenic carbon content in packaging, kg C	0.209

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 Unit
Mass per declared unit	4.216 kg
Functional unit	One Testifire XTR2 All-in-one Connected Smoke/Heat Detector Test Kit in use for 5 years
Reference service life	5 years

SUBSTANCES, REACH - VERY HIGH CONCERN

Substances of very high concern	EC	CAS
Lead	231-100-4	7439-92-1

NOTE: This EEE product does not contain any REACH SVHC substances in amounts greater than 0,1 % (1000 ppm) except for Lead as per Annex III of EU RoHS Directive 2011/65/EU.

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	X	X	MNR	MND	MNR	X	MNR	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

Module B4 has not been declared as currently, no systems are in place to quantify the number of product replacements due to failure. Estimated to be insignificant within the scope of this study.

MANUFACTURING AND PACKAGING (A1-A3)

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

The product system is comprised of an assembly of components manufactured from various raw materials including fossil-based materials, metals, electronic components and components from mineral raw materials such as glass (A1).

Testifire XTR2 is received at the place of production as a multitude of parts with some manual assembly required, as such components and parts are shipped to Detectortesters from a variety of locations and some packaging is included in this. The products are then manoeuvred and stored utilising electrical equipment.
The environmental impacts considered for the product stage cover the manufacture of raw materials (A1) used in production as well as production processes, transportation to the place of production (A2), packaging materials and ancillary materials (A3) where applicable. On top of this electricity consumption utilised by storage and handling equipment is also included in this stage. Material losses and their waste treatment are also considered during the manufacturing process (A3).
All transport to waste treatment sites has been conservatively assumed to be 100km.
All production and material losses at this stage are assumed to undergo the same processes as at module C and to avoid duplication see treatment methodology and assumptions there.

TRANSPORT AND INSTALLATION (A4-A5)

Transportation impacts occurring from the place of production to the construction site (A4) cover fuel direct exhaust emissions, environmental impacts of fuel production, and related infrastructure emissions.

Transportation methodologies assessed include road (16-32 tonne lorry), Air (unspecified) and sea transportation (Container Ship).
Packaging waste is assumed to reach end-of-life at the point of installation and is accounted for in module A5. Any transportation to waste treatment is conservatively assumed to be 100km.
Wooden pallet packaging is assumed to be recycled via chipping processes (C3) (NWPCA, 2018[1]).
Plastic packaging film is considered to undergo municipal incineration (electricity and heat) due to low global recycling rates of plastic films. For example, an approximate ~2% of flexible & film plastic packaging is recycled in the USA (The Recycling Partnership, 2021[2]).
Cardboard and paper reaching a waste state in module A5 are assumed to be a mixture of recycling & landfill, 80% and 20% respectively (Eurostat, 2022[3]).
All other forms of packaging (labels etc.) are conservatively assumed to reach landfill with no benefits (C4).

All other waste treatment at this stage is assumed to undergo the same processes as at module C and, to avoid duplication see treatment methodology and assumptions in the "Product End of Life" section.

PRODUCT USE AND MAINTENANCE (B1-B7)

The Testifire XTR2's lifetime has been assumed to align with a 5-year warranty. However, Detectortesters' estimations put the product life close to 7 years for a real-world lifetime.

Within the 5-year reference lifetime, 79 smoke cartridges are estimated to be utilised and their raw materials, manufacturing, transportation and waste processing have been considered within module B2 Maintenance, excluding the first cartridge as delivered with the product and the last cartridge waste treatment as this is dealt with in module C.

Direct-to-air emissions arriving due to the release of vapour from the smoke cartridges to test a given smoke detector is accounted for in module B1 (Use). Operational energy and water consumption are also considered in modules B6 & 7 respectively.

For waste treatment and processing within this module, transportation distances have been conservatively assumed to be 100km.
As components covered for waste treatment are also covered in end-of-life they are assumed to undergo the same processes as in module C. Therefore, to avoid duplication see treatment methodology and assumptions in the "Product End of Life" section.

PRODUCT END OF LIFE (C1-C4, D)

At the end-of-life the product is assumed to be taken out of use (C1).

Transportation to and between waste treatments is assumed to be 100km via 16-32 tonne lorry (C2).

The entire product is assumed to undergo manual and mechanical treatment to separate materials and allow for the treatment of individual commodities.

[1] National Wooden Pallet and Container Association (2018). https://palletfoundation.org/portfolio-item/landfill-avoidance-march-2018/
[2]The Recycling Partnership (2021). https://recyclingpartnership.org/wp-content/uploads/dlm_uploads/2021/04/FF_Whitepaper_final.pdf

[3] Eurostat (2022). https://ec.europa.eu/eurostat/web/waste/database?node_code=env_waspac

Steel materials are assumed to be recycled at a rate of 85% with the remaining 15% reaching landfill (World Steel Association, 2021[4]).

Aluminium materials are assumed to be recycled at a rate of 90% with the remaining 10% reaching landfill (European Aluminium Association, 2020[5]).

Metals for recycling are collected, sorted and pressed (C3). Metals for landfill receive no further processing prior to waste treatment (C4)

Due to the low global recycling rates of the polymers ~9% (OECD, 2022[6]) and a high percentage of co-polymers and engineering plastics present, all product polymers reaching end-of-life in module C have been assumed to undergo municipal incineration with energy recovery (electrical and heat) (C3). The efficiency of electrical and heat recovery has been assumed to be 11% & 62% respectively (Eriksson O. & Finnveden G., 2017[7])

Battery treatment is aligned with global averages for recycling and landfill, with 5% assumed recycled and 95% Landfilled (O'Connor, P. 2021[8]).

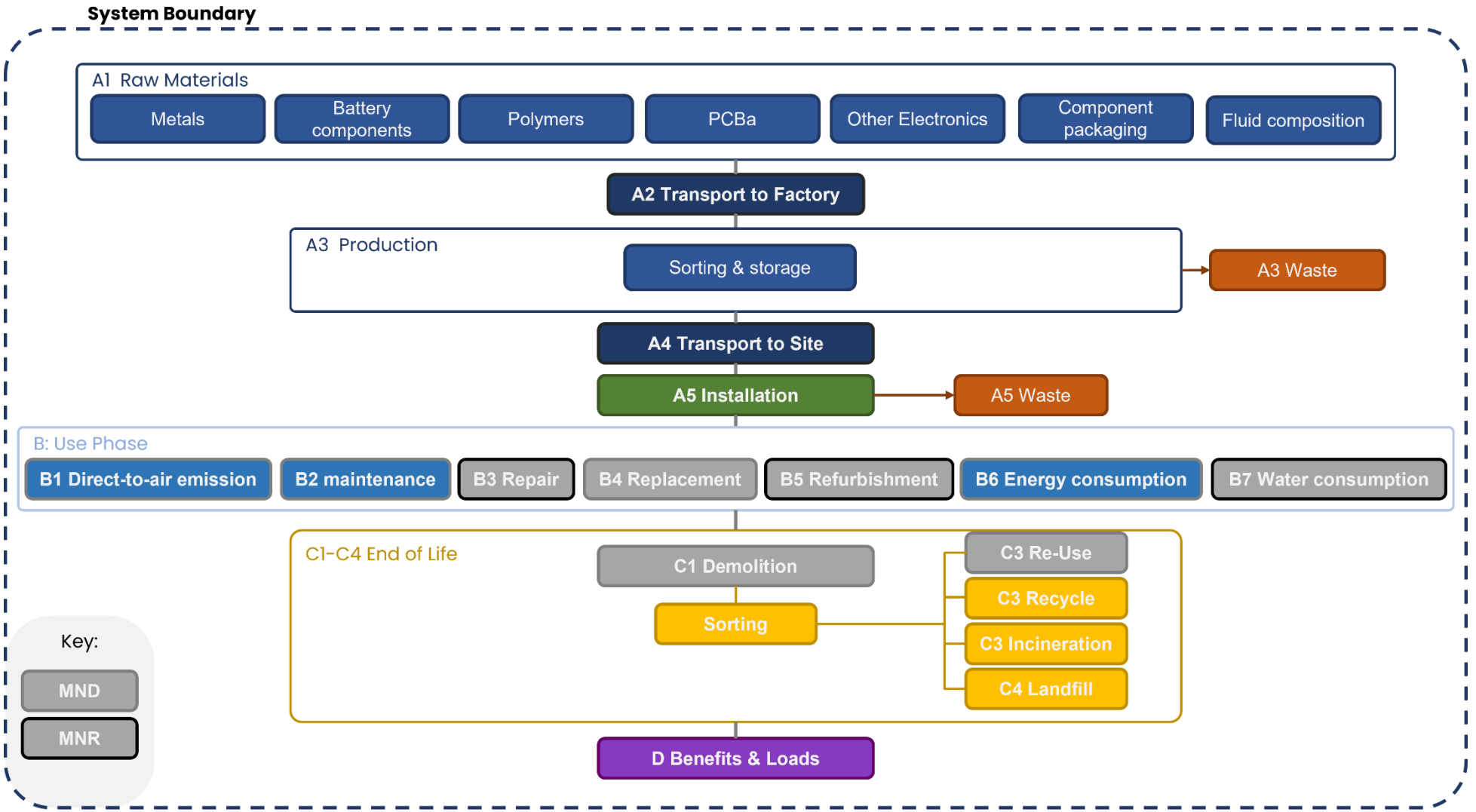
For Printed Circuit Boards (PCB) and all other electronic components, an assumed treatment split of 12% recycling (A3) and 88% landfilled (A4) with no further benefits is employed (GLOBAL EWASTE MONITOR. 2024[9]).

PCBs and all other electronics assumed to be recycled, undergo Hydro-metallurgical treatment and mechanical separation (C3). Whereas those landfilled are treated as such with no further benefits (C4).

Module D accounts for the benefits and loads beyond the system boundary. The benefits from the provision of recyclates (aluminium, scrap steel, wood, cardboard packaging, etc.) to subsequent lifecycles are expressed as a negative figure.

[4] World Steel Association (2021). Life cycle inventory (LCI) study. https://worldsteel.org/wp-content/uploads/2021-LCA-Study-Report.pdf
[5] European Aluminium Association (2020). European Aluminium General Programme Instructions. https://european-aluminium.eu/wp-content/uploads/2022/12/EPD-programme-rules-3rd-rev-European-Aluminium.pdf
[6] OECD (2022), Global Plastics Outlook, https://doi.org/10.1787/de747aef-en
[7] Eriksson, Ola & Finnveden, Göran. (2017). Energy Recovery from Waste Incineration, https://ideas.repec.org/a/eee/enepol/v35y2007i2p1346-1362.html
[8] O'Connor, P. (2021). An Analysis of Lithium-ion Battery Fires in Waste Management and Recycling, https://www.epa.gov/system/files/documents/2021-08/lithium-ion-battery-report-update-7.01_508.pdf
[9] Global E-waste Monito (2024). https://ewastemonitor.info/wp-content/uploads/2024/03/GEM_2024_18-03_web_page_per_page_web.pdf

MANUFACTURING PROCESS



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	Allocated by mass or volume
Packaging material	No allocation
Ancillary materials	Not applicable
Manufacturing energy and waste	Allocated by mass or volume

AVERAGES AND VARIABILITY

Type of average	No averaging
Averaging method	Not applicable
Variation in GWP-fossil for A1-A3	NA %

Averaging not utilised in this EPD.

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	3.42E+01	3.69E-01	5.81E-01	3.51E+01	3.55E-01	3.32E-01	1.45E-03	1.53E+01	MND	MND	MND	2.02E+01	MND	0.00E+00	5.16E-02	9.29E+00	3.27E-01	-1.56E+01
GWP – fossil	kg CO_2e	3.53E+01	3.69E-01	6.80E-01	3.64E+01	3.55E-01	2.28E-01	1.45E-03	1.52E+01	MND	MND	MND	2.00E+01	MND	0.00E+00	5.16E-02	8.32E+00	6.15E-02	-1.56E+01
GWP – biogenic	kg CO_2e	-1.21E+00	5.47E-07	-9.87E-02	-1.30E+00	0.00E+00	1.04E-01	0.00E+00	0.00E+00	MND	MND	MND	1.16E-01	MND	0.00E+00	0.00E+00	9.70E-01	2.65E-01	0.00E+00
GWP – LULUC	kg CO_2e	5.69E-02	2.31E-04	5.57E-04	5.77E-02	1.27E-04	1.91E-05	0.00E+00	4.99E-02	MND	MND	MND	3.45E-02	MND	0.00E+00	2.10E-05	4.64E-04	6.03E-04	1.34E-03
Ozone depletion pot.	kg $CFC\text{-}_{11}$e	3.94E-06	7.58E-08	1.53E-08	4.03E-06	7.78E-08	5.92E-09	0.00E+00	7.64E-07	MND	MND	MND	9.87E-07	MND	0.00E+00	1.14E-08	2.70E-08	2.90E-09	-1.70E-06
Acidification potential	mol H^+e	2.69E-01	8.66E-03	1.28E-03	2.79E-01	2.98E-03	1.76E-04	0.00E+00	8.94E-02	MND	MND	MND	8.39E-02	MND	0.00E+00	2.14E-04	3.28E-03	2.47E-04	-1.04E-01
EP-freshwater[2)]	kg Pe	4.17E-03	1.88E-06	9.34E-06	4.18E-03	2.08E-06	5.47E-07	0.00E+00	5.64E-04	MND	MND	MND	1.93E-03	MND	0.00E+00	4.35E-07	1.09E-05	2.59E-06	-5.64E-04
EP-marine	kg Ne	4.59E-02	2.15E-03	3.28E-04	4.84E-02	8.31E-04	6.17E-05	0.00E+00	1.17E-02	MND	MND	MND	1.23E-02	MND	0.00E+00	6.23E-05	1.28E-03	5.55E-05	-1.31E-02
EP-terrestrial	mol Ne	4.61E-01	2.39E-02	3.20E-03	4.88E-01	9.19E-03	5.80E-04	0.00E+00	1.28E-01	MND	MND	MND	1.42E-01	MND	0.00E+00	6.88E-04	1.32E-02	6.09E-04	-1.51E-01
POCP ("smog")[3)]	kg NMVOCe	1.51E-01	6.27E-03	1.08E-03	1.58E-01	2.51E-03	1.65E-04	1.13E-06	4.83E-02	MND	MND	MND	3.87E-02	MND	0.00E+00	2.09E-04	3.24E-03	2.89E-04	-4.25E-02
ADP-minerals & metals[4)]	kg Sbe	8.01E-03	7.41E-07	1.43E-06	8.02E-03	8.20E-07	3.83E-07	0.00E+00	1.02E-03	MND	MND	MND	1.70E-04	MND	0.00E+00	1.80E-07	3.41E-06	1.28E-07	-9.79E-06
ADP-fossil resources	MJ	5.37E+02	4.86E+00	6.69E+00	5.49E+02	4.97E+00	4.44E-01	0.00E+00	1.95E+02	MND	MND	MND	3.68E+02	MND	0.00E+00	7.47E-01	4.11E+00	6.70E-01	-1.93E+02
Water use[5)]	m^3e depr.	2.66E+01	1.68E-02	5.49E-01	2.71E+01	1.70E-02	1.13E-02	0.00E+00	6.34E+00	MND	MND	MND	8.37E+00	MND	0.00E+00	3.27E-03	2.58E-01	1.93E-02	-5.80E-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	2.04E-06	1.81E-08	1.50E-08	2.07E-06	2.03E-08	2.85E-09	0.00E+00	7.43E-07	MND	MND	MND	3.35E-07	MND	0.00E+00	4.39E-09	1.90E-08	4.82E-09	-9.18E-07
Ionizing radiation[6)]	kBq U235e	4.38E+00	2.24E-02	9.60E-02	4.50E+00	2.29E-02	3.53E-03	0.00E+00	9.91E-01	MND	MND	MND	8.50E+00	MND	0.00E+00	3.47E-03	2.93E-02	1.84E-03	-1.52E+00
Ecotoxicity (freshwater)	CTUe	2.88E+03	3.56E+00	6.39E+00	2.89E+03	3.90E+00	1.67E+00	1.64E-06	5.72E+02	MND	MND	MND	2.92E+02	MND	0.00E+00	6.88E-01	4.17E+01	1.74E+00	-2.76E+02
Human toxicity, cancer	CTUh	5.37E-08	1.94E-10	2.46E-10	5.41E-08	1.17E-10	6.62E-11	5.16E-13	2.81E-08	MND	MND	MND	8.54E-09	MND	0.00E+00	1.93E-11	3.18E-09	3.22E-10	-4.79E-09
Human tox. non-cancer	CTUh	1.95E-06	2.74E-09	1.48E-08	1.96E-06	4.03E-09	1.01E-09	3.07E-13	7.39E-07	MND	MND	MND	2.67E-07	MND	0.00E+00	6.41E-10	3.17E-07	1.26E-09	-1.19E-07
SQP[7)]	-	2.86E+02	1.69E+00	1.20E+01	3.00E+02	2.35E+00	3.69E-01	0.00E+00	4.81E+01	MND	MND	MND	7.13E+01	MND	0.00E+00	5.17E-01	1.51E+00	1.48E+00	-2.47E+02

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	5.76E+01	4.15E-02	1.33E+00	5.90E+01	4.40E-02	4.23E-02	0.00E+00	2.04E+01	MND	MND	MND	7.25E+01	MND	0.00E+00	8.77E-03	3.66E-01	2.37E-01	-9.49E+00
Renew. PER as material	MJ	1.09E+01	0.00E+00	8.81E-01	1.18E+01	0.00E+00	-9.25E-01	0.00E+00	0.00E+00	MND	MND	MND	0.00E+00	MND	0.00E+00	0.00E+00	-8.65E+00	-2.16E+00	0.00E+00
Total use of renew. PER	MJ	6.85E+01	4.15E-02	2.21E+00	7.07E+01	4.40E-02	-8.82E-01	0.00E+00	2.04E+01	MND	MND	MND	7.25E+01	MND	0.00E+00	8.77E-03	-8.28E+00	-1.92E+00	-9.49E+00
Non-re. PER as energy	MJ	4.94E+02	4.86E+00	4.93E+00	5.04E+02	4.97E+00	4.44E-01	0.00E+00	1.54E+02	MND	MND	MND	3.67E+02	MND	0.00E+00	7.47E-01	4.11E+00	6.70E-01	-1.93E+02
Non-re. PER as material	MJ	5.25E+01	0.00E+00	1.55E+00	5.40E+01	0.00E+00	-1.76E+00	0.00E+00	0.00E+00	MND	MND	MND	0.00E+00	MND	0.00E+00	0.00E+00	-5.21E+01	-1.66E-01	0.00E+00
Total use of non-re. PER	MJ	5.47E+02	4.86E+00	6.48E+00	5.58E+02	4.97E+00	-1.31E+00	0.00E+00	1.54E+02	MND	MND	MND	3.67E+02	MND	0.00E+00	7.47E-01	-4.80E+01	5.04E-01	-1.93E+02
Secondary materials	kg	2.52E-01	2.00E-03	2.59E-03	2.56E-01	1.34E-03	5.48E-04	0.00E+00	1.00E-01	MND	MND	MND	4.17E-02	MND	0.00E+00	2.46E-04	1.81E-03	6.97E-03	5.11E-01
Renew. secondary fuels	MJ	2.38E-01	1.08E-05	6.53E-03	2.44E-01	1.45E-05	6.03E-06	0.00E+00	2.13E-02	MND	MND	MND	3.31E-04	MND	0.00E+00	3.18E-06	1.17E-04	4.49E-05	-4.08E-05
Non-ren. secondary fuels	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	MND	MND	MND	0.00E+00	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of net fresh water	m^3	4.31E-01	4.04E-04	3.92E-03	4.35E-01	4.48E-04	1.02E-03	0.00E+00	1.60E-01	MND	MND	MND	2.60E-01	MND	0.00E+00	8.83E-05	7.42E-03	4.11E-04	-2.67E-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	3.50E+00	6.74E-03	2.63E-02	3.53E+00	5.60E-03	4.77E-03	0.00E+00	2.16E+00	MND	MND	MND	1.48E+00	MND	0.00E+00	1.07E-03	1.10E-01	3.01E-01	-1.06E+00
Non-hazardous waste	kg	9.52E+01	7.39E-02	4.61E-01	9.57E+01	8.20E-02	2.95E-01	0.00E+00	2.94E+01	MND	MND	MND	8.75E+01	MND	0.00E+00	1.72E-02	3.18E+00	1.08E-02	-2.22E+01
Radioactive waste	kg	1.48E-03	3.36E-05	2.61E-05	1.54E-03	3.40E-05	2.49E-06	0.00E+00	4.04E-04	MND	MND	MND	2.22E-03	MND	0.00E+00	4.94E-06	1.02E-05	0.00E+00	-9.61E-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	0.00E+00	0.00E+00	MND	MND	MND	0.00E+00	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for recycling	kg	0.00E+00	0.00E+00	6.03E-02	6.03E-02	0.00E+00	8.48E-01	0.00E+00	2.35E-01	MND	MND	MND	0.00E+00	MND	0.00E+00	0.00E+00	2.71E-01	0.00E+00	0.00E+00
Materials for energy rec	kg	0.00E+00	0.00E+00	1.46E-01	1.46E-01	0.00E+00	6.34E-02	0.00E+00	2.07E+00	MND	MND	MND	0.00E+00	MND	0.00E+00	0.00E+00	2.39E+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	0.00E+00	0.00E+00	0.00E+00	MND	MND	MND	0.00E+00	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_2e	3.44E+01	3.66E-01	6.74E-01	3.55E+01	3.52E-01	2.33E-01	9.08E-04	1.48E+01	MND	MND	MND	1.98E+01	MND	0.00E+00	5.11E-02	8.30E+00	5.91E-02	-1.54E+01
Ozone depletion Pot.	kg CFC_{-11}e	4.03E-06	6.00E-08	1.19E-08	4.10E-06	6.16E-08	4.83E-09	0.00E+00	6.69E-07	MND	MND	MND	8.48E-07	MND	0.00E+00	9.02E-09	2.29E-08	2.94E-09	-1.35E-06
Acidification	kg SO_2e	2.24E-01	6.92E-03	9.67E-04	2.32E-01	2.34E-03	1.35E-04	0.00E+00	7.61E-02	MND	MND	MND	7.04E-02	MND	0.00E+00	1.66E-04	2.44E-03	1.99E-04	-8.84E-02
Eutrophication	kg PO_4^3e	1.43E-01	8.15E-04	5.74E-04	1.44E-01	3.70E-04	1.19E-04	0.00E+00	2.77E-02	MND	MND	MND	6.73E-02	MND	0.00E+00	3.82E-05	1.65E-03	1.08E-04	-2.00E-02
POCP (“smog”)	kg C_2H_4e	1.90E-02	1.83E-04	9.19E-05	1.93E-02	6.89E-05	8.04E-06	6.69E-07	6.38E-03	MND	MND	MND	3.14E-03	MND	0.00E+00	6.76E-06	6.87E-05	3.18E-05	-3.42E-03
ADP-elements	kg Sbe	7.84E-03	7.25E-07	1.18E-06	7.84E-03	8.01E-07	3.70E-07	0.00E+00	1.01E-03	MND	MND	MND	1.70E-04	MND	0.00E+00	1.75E-07	3.30E-06	1.12E-07	-9.86E-06
ADP-fossil	MJ	5.46E+02	4.86E+00	6.44E+00	5.57E+02	4.97E+00	4.44E-01	0.00E+00	1.95E+02	MND	MND	MND	3.67E+02	MND	0.00E+00	7.47E-01	4.11E+00	6.70E-01	-1.93E+02

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.

Abderazak Guiz, as an authorized verifier acting for EPD Hub Limited.
02.05.2025