ENVIRONMENTAL PRODUCT DECLARATION

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

ElaProof H
Build Care Oy

EPD HUB, HUB-1032
Published on 19.01.2024, last updated on 19.01.2024, valid until 19.01.2029.

GENERAL INFORMATION

MANUFACTURER

Manufacturer	Build Care Oy
Address	Kelatie 6, 01450 Vantaa, Finland
Contact details	info@buildcare.fi
Website	https://www.elaproof.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 1.0, 1 Feb 2022
Sector	Construction product
Category of EPD	Sister EPD
Scope of the EPD	Cradle to gate with options, A4-A5, and modules C1-C4, D
EPD author	Virpi Rahikkala Build Care Oy
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal certification ☑ 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	ElaProof H
Additional labels	ElaProof H & ElaProof Indoor H
Product reference	1010, 1010G, 1010R, 1050, 1050G, 1050R, 1050RR11, 1050RR23, 1050RR32, 1150, 1150G, 1150R, 1150RR11, 1150RR23, 1150RR32, 3050W, 3050G, 3150G, 3150G
Place of production	Lohja, Finland
Period for data	2022
Averaging in EPD	No averaging
Variation in GWP-fossil for A1-A3	0 %

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 kg
Declared unit mass	1 kg
GWP-fossil, A1-A3 (kgCO2e)	5,07
GWP-total, A1-A3 (kgCO2e)	5,00
Secondary material, inputs (%)	1.19
Secondary material, outputs (%)	97.1
Total energy use, A1-A3 (kWh)	18.9
Total water use, A1-A3 (m3e)	0,32

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

Build Care Ltd. manufactures patented ElaProof products from REACH-certified raw materials for professional and consumer use. Our highest quality environmentally friendly products are designed for protection and coating of structures and different building materials both indoor and outdoor. The product offering includes, among others, radon and indoor air leak protection, coating of roofs, terraces, balconies, concrete structures and protecting various materials e.g., bitumen, brick, concrete, metal, and wood.

PRODUCT DESCRIPTION

This EPD covers ElaProof H range of coatings both outdoor and indoor use for professionals and DIY types. The EPD of ElaProof H is a sister EPD for ElaProof S (HUB-0614). For the GWP value the service life is not included because the service life depends on the surface product on which ElaProof H is outspread.

ElaProof H is water-based polyacrylic emulsion, an economical one-component product. It is iso-cyanate- and solvent free, with viscosity level commonly more that 25t mPaS. ElaProof H has pH around 8, so it is neutral with very low odour. ElaProof H can be spread with hands using spatula or brush. The product can be diluted as well as tools cleaned only with water. Our product is listed in the Nordic Ecolabelling construction product database and can be used in Swan-labelled buildings.
The range of ElaProof H (Indoor) is ideal for a long-lasting and a waterproofing protective layer, sealing indoor air leaks and radon, and is M1 approved with an EMICODE EC 1. ElaProof H (Indoor and Outdoor) is also CE marked construction product based to EN 13813 and EN 1504-2. ElaProof H has classified with reaction to fire as C-s1 d0, and as a roof coating Broof(t2) which makes it suitable for the most for the roofing's.

ElaProof H (both indoor and outdoor use) is very elastic and therefore withstands structure movements, both moisture and temperature, with crack bridging ability of outstanding values 10,1 - 13,9 mm (EN 1062-7). The reason the product has solid contain around 66 v/v%, density around 1,16 kg/L, added the fact it is air drying with water evaporation, is then recommended to spread wet layer as 2 to 3 mm thickness (around 2,5 L/m2) to get at least 1,5 mm thick dry layer. The needed thickness can be spread with 2 layers. When using as a sealant (corners, folding's, bridging cracks), the use of support fabric ribbon between layers is recommended.

Further information can be found at https://www.elaproof.com/.

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass- %	Material origin
Metals	0	-
Minerals	21-24	EU
Fossil materials	45-50	EU
Bio-based materials	0	-

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	0.02154

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 kg
Mass per declared unit	1 kg
Functional unit	-
Reference service life	-

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 raw materials are delivered to the Build Care factory in Finland. Depending on the binder, content of water varies 56-44%. The water content of binders is not included in the materials, and this presumably will affect to the final GWP value as an increase. The raw materials are then mixed for roughly 1 hours at room temperature. Subsequently, ElaProof H is batched and packaged. The packaging materials used consist of PP buckets (100% recycled of buckets, 100% virgin material of lids and handles) on a wooden pallet.

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 average transportation distance from the plant to the construction site is assumed to be 120 km, and it is assumed that the transport will be carried out by lorry. There is no loss in transportation as the products are properly packaged (A4).

ElaProof H is always installed on the original surface for prolonging its lifetime. Before installation the coated area should be cleaned off from dust and external items, mainly only with water or dry brushing/vacuuming. The ElaProof H product can be installed by professionals or DIY using spatula or brush for spreading 1-2 layers approximately 1,5 - 2,0 mm each to produce around 1,0 - 2,0 mm dry-film thickness. The product can be diluted if needed as well as equipment's can be cleaned only with water. After installation the product dries out via water evaporation losing its thickness around 40% depending on its water content. For using the product as a sealer or bridging cracks, corners, and fold, is recommended to use supporting fabric ribbon between layers.

The installation scenario consists of roofing's on to bitumen, steal, and brick surfaces, but the product is made for both indoor and outdoor use.

After installation the equipment's are recommended to clean by washing only with water and after treated as municipal wastewater waste. The installation material loss is calculated of the amount, which is left on a bucket or on other installation equipment, from installation itself the material loss is negligible.

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.

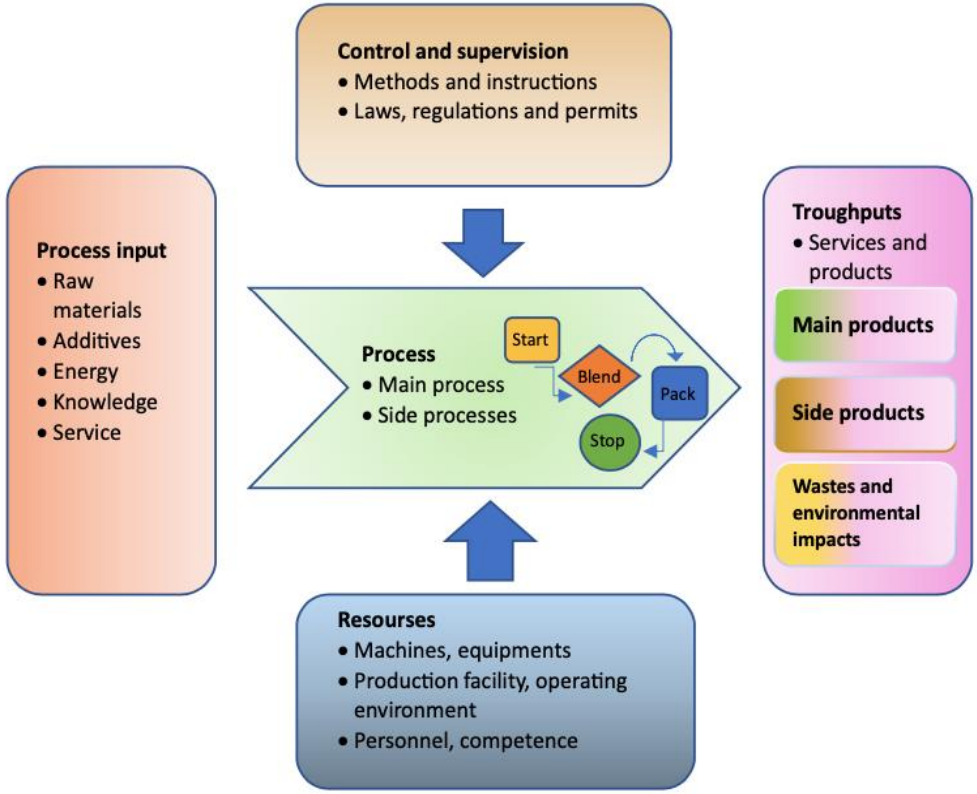
PRODUCT END OF LIFE (C1-c4, D)

At the end-of-life, in the demolition phase 100% of the waste is assumed to be collected as separate construction waste from which the product itself may not be separated. The product undergoes the same after treatment as the surface, which it is spread on. The unused ElaProof H can be, when dried out, disposed like buckets can as a household waste. The consumption of energy, and natural resources varies depending on the demolition type; for this it is assumed to be the same as what the bitumen, metal, or brick roofing's would take, and then for the product itself the impacts of demolition are assumed zero (C1).

All end-of-life product is assumed to be sent to the closest facilities and is assumed to be in average of 100km distance from the demolition site (C2). ElaProof H end-of-life treatment was modelled based on the building material it would be applied to, considering brick, metal, and bitumen surfaces in Finland. This considered a mix of recycling, incineration, and landfill, for example bitumen after treatment consists of as from 100% bitumen goes 71% recycle, 6% incineration, 23% landfill (C3-C4).

Heat recovered from the combustion of coating with the original surfaces replaces the use of fossil fuels in energy production. The energy generated by burning coating with the original surfaces replaces fossil fuel, which is assumed to be oil. The calculation assumes that the waste incineration plant has co-generation for electricity and heat. The load and benefit of the ElaProof H on brick substrate recycled to be used as aggregates (D).

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	Partly allocated by mass or volume
Packaging materials	Allocated by mass or volume
Ancillary materials	No allocation
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	0 %

Covers all different colours of an indoor and an outdoor hand spreadable ElaProof H product.

Calculation has been made for the colour grey, in ElaProof S (the parent EPD) calculation has been made for the colour black.

Raw-materials are the same as in ElaProof S (HUB-0614), the only difference is the viscosity level; ElaProof H is higher in viscous that ElaProof S.

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. Ecoinvent v3.8 and One Click LCA databases were used 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	4,65E+00	2,01E-01	1,51E-01	5,00E+00	2,71E-02	2,09E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	9,38E-03	1,68E+00	3,32E-03	-2,08E-01
GWP – fossil	kg CO_2e	4,64E+00	2,01E-01	2,30E-01	5,07E+00	2,71E-02	1,28E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	9,37E-03	1,69E+00	3,44E-03	-2,05E-01
GWP – biogenic	kg CO_2e	7,26E-03	0,00E+00	-8,07E-02	-7,34E-02	0,00E+00	8,05E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	-7,00E-03	-1,28E-04	-9,32E-04
GWP – LULUC	kg CO_2e	1,25E-03	7,42E-05	8,97E-04	2,22E-03	1,04E-05	2,42E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,46E-06	6,40E-06	2,61E-07	-1,87E-03
Ozone depletion pot.	kg CFC_{-11}e	2,89E-07	4,63E-08	1,70E-08	3,53E-07	6,28E-09	4,60E-09	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,16E-09	2,03E-09	7,40E-11	-1,12E-08
Acidification potential	mol H^+e	2,80E-02	8,52E-04	8,71E-04	2,97E-02	1,29E-04	3,28E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,97E-05	1,68E-04	3,68E-06	-8,23E-04
EP-freshwater[2)]	kg Pe	1,45E-04	1,65E-06	8,90E-06	1,56E-04	2,14E-07	1,65E-06	MND	MND	MND	MND	MND	MND	MND	0,00E+00	7,67E-08	2,34E-07	4,52E-09	-7,77E-06
EP-marine	kg Ne	4,30E-03	2,53E-04	1,65E-04	4,72E-03	4,18E-05	5,96E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,18E-05	7,39E-05	2,99E-06	-1,35E-04
EP-terrestrial	mol Ne	3,76E-02	2,79E-03	1,83E-03	4,22E-02	4,60E-04	5,43E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,30E-04	8,17E-04	7,88E-06	-1,62E-03
POCP ("smog")[3)]	kg NMVOCe	1,63E-02	8,94E-04	6,42E-04	1,78E-02	1,40E-04	2,15E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,16E-05	2,04E-04	3,10E-06	-4,30E-04
ADP-minerals & metals[4)]	kg Sbe	3,39E-05	4,72E-07	1,05E-06	3,54E-05	7,41E-08	3,68E-07	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,20E-08	6,56E-08	8,76E-10	-8,25E-07
ADP-fossil resources	MJ	8,00E+01	3,02E+00	4,84E+00	8,78E+01	4,08E-01	9,52E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,41E-01	1,88E-01	5,74E-03	-6,22E+00
Water use[5)]	m^3e depr.	2,62E+00	1,35E-02	1,38E-01	2,77E+00	1,87E-03	3,02E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	6,30E-04	3,97E-02	3,66E-05	-1,34E-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.

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	2,09E+00	3,41E-02	1,24E+00	3,36E+00	5,09E-03	3,46E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,59E-03	6,32E-03	1,26E-04	-1,53E+00
Renew. PER as material	MJ	0,00E+00	0,00E+00	6,92E-01	6,92E-01	0,00E+00	-6,92E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of renew. PER	MJ	2,09E+00	3,41E-02	1,93E+00	4,05E+00	5,09E-03	-6,57E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,59E-03	6,32E-03	1,26E-04	-1,53E+00
Non-re. PER as energy	MJ	5,67E+01	3,02E+00	4,99E+00	6,47E+01	4,08E-01	7,21E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,41E-01	1,88E-01	5,74E-03	-6,22E+00
Non-re. PER as material	MJ	2,33E+01	0,00E+00	-7,43E-03	2,32E+01	0,00E+00	-4,49E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	-2,24E+01	-4,10E-01	0,00E+00
Total use of non-re. PER	MJ	8,00E+01	3,02E+00	4,99E+00	8,80E+01	4,08E-01	2,72E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,41E-01	-2,22E+01	-4,05E-01	-6,22E+00
Secondary materials	kg	1,19E-02	8,39E-04	4,84E-03	1,76E-02	1,22E-04	2,06E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,91E-05	3,29E-04	2,03E-06	-4,13E-04
Renew. secondary fuels	MJ	2,81E-04	8,47E-06	2,45E-02	2,48E-02	1,25E-06	2,48E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,94E-07	1,50E-06	7,76E-08	-1,63E-06
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	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m^3	8,11E-02	3,92E-04	2,39E-01	3,20E-01	5,34E-05	3,18E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,82E-05	1,56E-04	6,15E-06	-5,52E-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	2,40E-01	4,01E-03	1,69E-02	2,61E-01	5,15E-04	3,19E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,87E-04	8,31E-05	0,00E+00	-1,34E-02
Non-hazardous waste	kg	3,43E+00	6,58E-02	3,71E-01	3,87E+00	8,69E-03	8,49E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,07E-03	7,55E-01	2,30E-02	-4,80E+00
Radioactive waste	kg	7,90E-05	2,02E-05	3,12E-05	1,30E-04	2,75E-06	1,75E-06	MND	MND	MND	MND	MND	MND	MND	0,00E+00	9,42E-07	2,58E-07	0,00E+00	-6,57E-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	1,18E-01	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	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	2,70E-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	0,00E+00	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	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	5,31E+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	4,44E+00	1,99E-01	2,26E-01	4,86E+00	2,68E-02	1,25E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	9,28E-03	1,69E+00	2,80E-03	-2,03E-01
Ozone depletion Pot.	kg CFC_{-11}e	2,63E-07	3,67E-08	1,10E-08	3,11E-07	4,97E-09	3,96E-09	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,71E-09	1,74E-09	5,87E-11	-9,85E-09
Acidification	kg SO_2e	2,40E-02	6,62E-04	7,15E-04	2,54E-02	9,85E-05	2,77E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,08E-05	1,20E-04	3,04E-06	-6,77E-04
Eutrophication	kg PO_4^3e	6,44E-03	1,51E-04	4,53E-04	7,05E-03	2,27E-05	2,89E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	7,02E-06	1,25E-04	1,66E-04	-2,97E-04
POCP (“smog”)	kg C_2H_4e	1,57E-03	2,58E-05	6,09E-05	1,66E-03	3,58E-06	1,92E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,20E-06	3,28E-06	5,63E-07	-3,10E-05
ADP-elements	kg Sbe	3,37E-05	4,57E-07	1,04E-06	3,52E-05	7,20E-08	3,65E-07	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,13E-08	5,27E-08	8,48E-10	-8,34E-07
ADP-fossil	MJ	8,00E+01	3,02E+00	5,32E+00	8,83E+01	4,08E-01	9,56E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,41E-01	1,88E-01	5,74E-03	-5,90E+00

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
19.01.2024

VERIFIED ISO 14025