

ENVIRONMENTAL PRODUCT DECLARATION

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

Spectraplan
IKO UK PLC

Please note that the Life Cycle Assessment (LCA) data used in this EPD for certain material inputs is based on generic industry-average data sourced from the Ecoinvent database. This has been used as a temporary measure while we await supplier-specific LCA data, which will provide more accurate and representative environmental impacts for the product. Once the supplier data is received and verified, we will update the EPD to reflect the actual environmental performance of the materials used. The use of Ecoinvent reference data may result in slight variations compared to the actual impacts of the product when based on the specific supply chain. We are committed to providing accurate and transparent environmental information and will revise this document as soon as the necessary data becomes available and seek third party verification.

GENERAL INFORMATION

MANUFACTURER

Manufacturer	IKO UK PLC
Address	Coney Green Rd, Clay Cross, Chesterfield S45 9HZ
Contact details	louis.weir@iko.com
Website	https://ikogroup.co.uk/

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
Sector	Construction product
Category of EPD	Third party verified EPD
Parent EPD number	
Scope of the EPD	Cradle to gate with modules C1-C4, D
EPD author	Louis Weir
EPD verification	Independent verification of this EPD and data, according to ISO 14025: <input checked="" type="checkbox"/> Internal verification <input type="checkbox"/> External verification
EPD verifier	Self Certified

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	Spectraplan
Additional labels	
Product reference	
Place of production	
Period for data	2024 (Design Phase)
Averaging in EPD	Multiple products
Variation in GWP-fossil for A1-A3	20 %

ENVIRONMENTAL DATA SUMMARY

Declared unit	M2
Declared unit mass	1.7832 kg
GWP-fossil, A1-A3 (kgCO ₂ e)	4.11E+00
GWP-total, A1-A3 (kgCO ₂ e)	3.82E+00
Secondary material, inputs (%)	0.53
Secondary material, outputs (%)	0
Total energy use, A1-A3 (kWh)	25.8
Net freshwater use, A1-A3 (m ³)	0.08

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

PRODUCT DESCRIPTION

Further information can be found at <https://ikogroup.co.uk/>.

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	N/A	N/A
Minerals	15%	UK
Fossil materials	85%	EU
Bio-based materials	N/A	N/A

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

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

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	M2
Mass per declared unit	1.7832 kg
Functional unit	M2
Reference service life	30

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	MND	MND	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	Deconstruction/ demolition	Transport	Waste processing	Disposal	Reuse	Recovery	Recycling

Modules not declared = MND. Modules not relevant = MNR

MANUFACTURING AND PACKAGING (A1-A3)

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

Raw materials are mixed and compounded into pellet form on the compound plant. These pellets are allowed to cool and then extruded into a sheet which is reinforced with a scrim. The packaging line cuts the resulting sheet into 20m rolls, labels and wraps the rolls, palletises the wrapped rolls then bands the final pallet. An operator applies the final product labels. No losses are made with the use of raw materials due to a hopper system. All product cuts and losses are repurposed as raw material for a separate manufacturing process outside the scope of Spectraplan. Therefore there are no cuts and losses to be declared in the production of this product. Manufacturing energy is based on site energy consumption divided by square metres of product produced in the year 2023.

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.

Transport data is based on the transportation of products to the IKO Hub Dudley distribution centre due to the varied locations of customers around the UK . Installation energy cannot be determined as methods and energy uses may vary between customers. Polypropylene banding to be recycled where possible and all other packaging waste to be incinerated in line with IKO recommendations. The waste flow model for this section assumes these recommendations are followed.

PRODUCT USE AND MAINTENANCE (B1-B7)

The use stage has not been considered as product use after purchase may vary drastically from customer to customer. Although maintenance guidelines are given, if these guidelines are followed cannot be controlled.

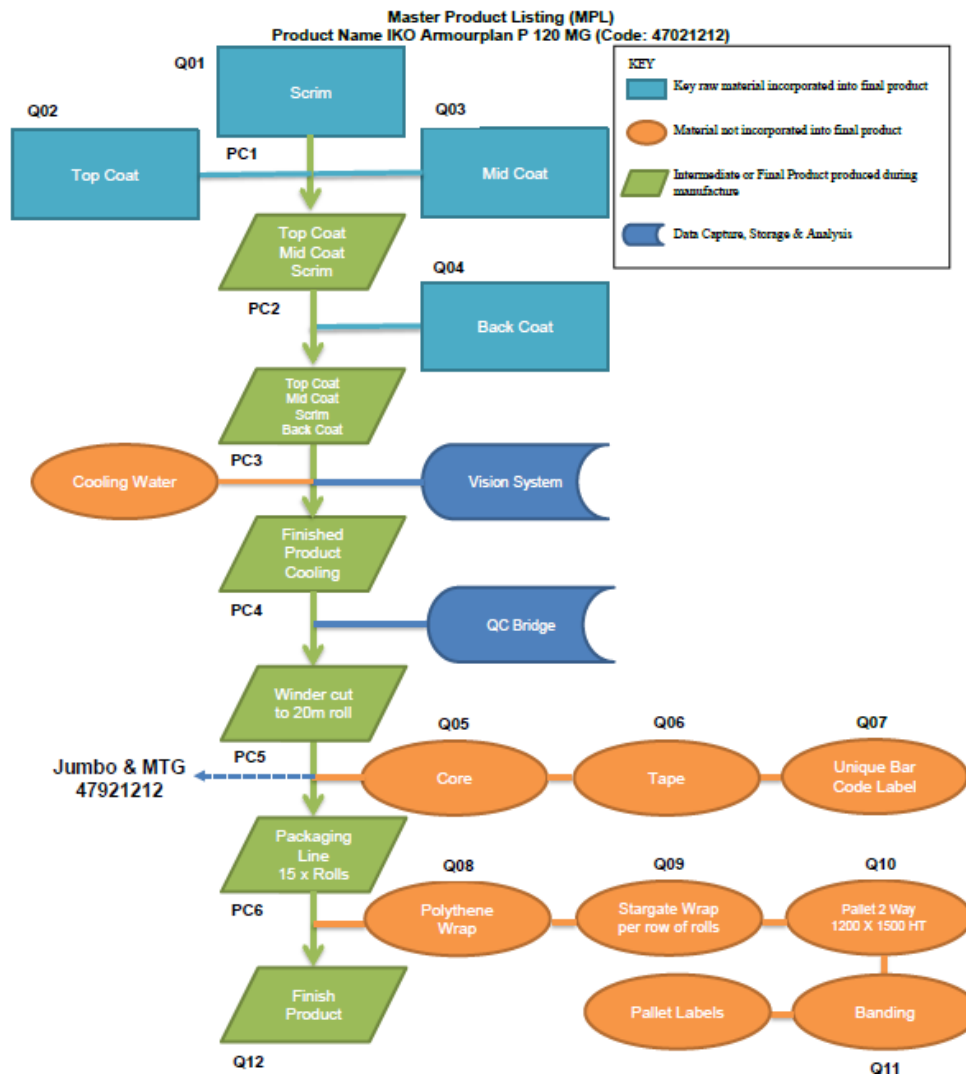
Air, soil, and water impacts during the use phase have not been studied.

PRODUCT END OF LIFE (C1-C4, D)

Removal at end of life is typically done by hand or with power tools to remove the fixings. This scenarios energy use is modelled in this EPD. Upon removal, waste product can either be recycled, sent to landfill or incinerated for energy recovery. As

IKO recommend incineration for energy recovery as the desired disposal method, this scenario has been used for the end-of-life section of this EPD. A 50km range is assumed for the transportation of waste to the nearest waste centre. Benefits from incineration have been assumed to be at 62% efficiency for heat production and 11% for electricity production.

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	Allocated by mass or volume
Ancillary materials	Not applicable
Manufacturing energy and waste	Allocated by mass or volume

AVERAGES AND VARIABILITY

Type of average	Multiple products
Averaging method	Representative product
Variation in GWP-fossil for A1-A3	20%

The average of the Armour Plan Range

LCA SOFTWARE AND BIBLIOGRAPHY

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

ENVIRONMENTAL IMPACT DATA

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP – total ¹⁾	kg CO ₂ e	3.48E+00	9.03E-02	2.46E-01	3.82E+00	3.25E-02	2.90E-01	MND	MND	MND	MND	MND	MND	MND	8.74E-04	8.37E-03	4.24E+00	0.00E+00	-3.19E+00
GWP – fossil	kg CO ₂ e	3.48E+00	9.03E-02	5.34E-01	4.11E+00	3.25E-02	0.00E+00	MND	MND	MND	MND	MND	MND	MND	8.71E-04	8.37E-03	4.24E+00	0.00E+00	-3.18E+00
GWP – biogenic	kg CO ₂ e	2.26E-04	1.66E-06	-2.89E-01	-2.89E-01	1.26E-05	2.90E-01	MND	MND	MND	MND	MND	MND	MND	1.13E-06	3.24E-06	3.49E-04	0.00E+00	-2.72E-03
GWP – LULUC	kg CO ₂ e	3.58E-04	3.33E-05	1.63E-03	2.02E-03	1.20E-05	0.00E+00	MND	MND	MND	MND	MND	MND	MND	1.19E-06	3.09E-06	3.60E-05	0.00E+00	-2.65E-03
Ozone depletion pot.	kg CFC-11e	3.94E-08	2.08E-08	4.04E-08	1.01E-07	7.47E-09	0.00E+00	MND	MND	MND	MND	MND	MND	MND	5.91E-11	1.92E-09	9.31E-09	0.00E+00	-2.66E-07
Acidification potential	mol H ⁺ e	1.38E-02	3.82E-04	2.30E-03	1.65E-02	1.37E-04	0.00E+00	MND	MND	MND	MND	MND	MND	MND	2.73E-06	3.54E-05	9.80E-04	0.00E+00	-7.71E-03
EP-freshwater ²⁾	kg Pe	1.37E-05	7.39E-07	1.89E-05	3.34E-05	2.66E-07	0.00E+00	MND	MND	MND	MND	MND	MND	MND	1.69E-08	6.85E-08	1.11E-06	0.00E+00	-3.75E-05
EP-marine	kg Ne	2.35E-03	1.14E-04	7.12E-04	3.18E-03	4.09E-05	0.00E+00	MND	MND	MND	MND	MND	MND	MND	5.93E-07	1.05E-05	4.58E-04	0.00E+00	-1.73E-03
EP-terrestrial	mol Ne	2.57E-02	1.25E-03	5.54E-03	3.25E-02	4.51E-04	0.00E+00	MND	MND	MND	MND	MND	MND	MND	7.13E-06	1.16E-04	4.70E-03	0.00E+00	-2.03E-02
POCP (“smog”) ³⁾	kg NMVOCe	7.61E-03	4.01E-04	1.44E-03	9.45E-03	1.44E-04	0.00E+00	MND	MND	MND	MND	MND	MND	MND	1.75E-06	3.72E-05	1.14E-03	0.00E+00	-5.64E-03
ADP-minerals & metals ⁴⁾	kg Sbe	4.51E-05	2.12E-07	4.51E-06	4.98E-05	7.61E-08	0.00E+00	MND	MND	MND	MND	MND	MND	MND	2.47E-09	1.96E-08	3.83E-07	0.00E+00	-3.22E-06
ADP-fossil resources	MJ	6.36E+01	1.36E+00	9.65E+00	7.46E+01	4.88E-01	0.00E+00	MND	MND	MND	MND	MND	MND	MND	2.32E-02	1.26E-01	7.89E-01	0.00E+00	-7.03E+01
Water use ⁵⁾	m ³ e depr.	1.11E+00	6.07E-03	1.98E-01	1.32E+00	2.18E-03	0.00E+00	MND	MND	MND	MND	MND	MND	MND	1.80E-04	5.62E-04	1.68E-01	0.00E+00	-4.57E-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	1.66E-07	1.04E-08	2.87E-08	2.05E-07	3.74E-09	0.00E+00	MND	MND	MND	MND	MND	MND	MND	1.33E-11	9.64E-10	4.78E-09	0.00E+00	-3.40E-08
Ionizing radiation ⁶⁾	kBq 11235e	5.51E-02	6.46E-03	1.55E-01	2.17E-01	2.32E-03	0.00E+00	MND	MND	MND	MND	MND	MND	MND	8.16E-04	5.98E-04	2.42E-03	0.00E+00	-1.76E+00
Ecotoxicity (freshwater)	CTUe	1.37E+01	1.22E+00	1.46E+01	2.95E+01	4.39E-01	0.00E+00	MND	MND	MND	MND	MND	MND	MND	1.11E-02	1.13E-01	8.92E+00	0.00E+00	-2.83E+01
Human toxicity, cancer	CTUh	4.75E-10	3.00E-11	3.28E-10	8.33E-10	1.08E-11	0.00E+00	MND	MND	MND	MND	MND	MND	MND	2.28E-13	2.78E-12	3.77E-10	0.00E+00	-5.41E-10
Human tox. non-cancer	CTUh	2.41E-08	1.21E-09	7.19E-09	3.25E-08	4.34E-10	0.00E+00	MND	MND	MND	MND	MND	MND	MND	6.93E-12	1.12E-10	1.44E-08	0.00E+00	-1.63E-08
SQP ⁷⁾	-	9.32E-01	1.56E+00	1.10E+01	1.35E+01	5.62E-01	0.00E+00	MND	MND	MND	MND	MND	MND	MND	8.66E-03	1.45E-01	2.65E-01	0.00E+00	-1.94E+01

6) EN 15804+A2 disclaimer for Ionizing radiation, human health. This impact category deals mainly with the eventual impact of low-dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator; 7) SQP = Land use related impacts/soil quality.

USE OF NATURAL RESOURCES

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Renew. PER as energy ⁸⁾	MJ	1.11E+00	1.53E-02	2.46E+00	3.59E+00	5.49E-03	0.00E+00	MND	MND	MND	MND	MND	MND	MND	4.22E-03	1.42E-03	3.09E-02	0.00E+00	-9.11E+00
Renew. PER as material	MJ	0.00E+00	0.00E+00	2.54E+00	2.54E+00	0.00E+00	-2.54E+00	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	1.11E+00	1.53E-02	5.00E+00	6.12E+00	5.49E-03	-2.54E+00	MND	MND	MND	MND	MND	MND	MND	4.22E-03	1.42E-03	3.09E-02	0.00E+00	-9.11E+00
Non-re. PER as energy	MJ	7.86E+01	1.36E+00	9.20E+00	8.92E+01	4.88E-01	0.00E+00	MND	MND	MND	MND	MND	MND	MND	2.32E-02	1.26E-01	7.89E-01	0.00E+00	-7.03E+01
Non-re. PER as material	MJ	4.30E+01	0.00E+00	4.48E-01	4.35E+01	0.00E+00	-4.52E-01	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	-2.72E+01	0.00E+00	0.00E+00
Total use of non-re. PER	MJ	1.22E+02	1.36E+00	9.64E+00	1.33E+02	4.88E-01	-4.52E-01	MND	MND	MND	MND	MND	MND	MND	2.32E-02	1.26E-01	-2.64E+01	0.00E+00	-7.03E+01
Secondary materials	kg	9.44E-03	3.77E-04	1.91E-01	2.01E-01	1.35E-04	0.00E+00	MND	MND	MND	MND	MND	MND	MND	1.58E-06	3.49E-05	7.03E-04	0.00E+00	-4.69E-03
Renew. secondary fuels	MJ	7.99E-03	3.80E-06	1.67E-02	2.47E-02	1.37E-06	0.00E+00	MND	MND	MND	MND	MND	MND	MND	6.06E-09	3.52E-07	2.48E-05	0.00E+00	-1.57E-05
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	7.52E-02	1.76E-04	4.83E-03	8.02E-02	6.32E-05	0.00E+00	MND	MND	MND	MND	MND	MND	MND	4.21E-06	1.63E-05	6.27E-03	0.00E+00	-1.07E-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	1.82E-01	1.80E-03	3.42E-02	2.17E-01	6.47E-04	0.00E+00	MND	MND	MND	MND	MND	MND	MND	4.81E-05	1.67E-04	0.00E+00	0.00E+00	-1.10E-01
Non-hazardous waste	kg	4.54E+00	2.95E-02	5.42E-01	5.11E+00	1.06E-02	0.00E+00	MND	MND	MND	MND	MND	MND	MND	6.65E-04	2.74E-03	1.78E+00	0.00E+00	-1.41E+00
Radioactive waste	kg	2.36E-04	9.07E-06	4.34E-05	2.88E-04	3.26E-06	0.00E+00	MND	MND	MND	MND	MND	MND	MND	2.05E-07	8.41E-07	0.00E+00	0.00E+00	-4.43E-04

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Components for re-use	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for recycling	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for 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	0.00E+00	0.00E+00	0.00E+00

ENVIRONMENTAL IMPACTS – EN 15804+A1, CML / ISO 21930

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Global Warming Pot.	kg CO ₂ e	3.34E+00	8.94E-02	5.36E-01	3.97E+00	3.21E-02	0.00E+00	MND	MND	MND	MND	MND	MND	MND	8.62E-04	8.28E-03	4.24E+00	0.00E+00	-3.12E+00
Ozone depletion Pot.	kg CFC ₁₁ e	3.57E-08	1.65E-08	3.43E-08	8.65E-08	5.91E-09	0.00E+00	MND	MND	MND	MND	MND	MND	MND	5.19E-11	1.52E-09	8.39E-09	0.00E+00	-2.30E-07
Acidification	kg SO ₂ e	1.15E-02	2.97E-04	1.79E-03	1.36E-02	1.07E-04	0.00E+00	MND	MND	MND	MND	MND	MND	MND	2.16E-06	2.75E-05	6.98E-04	0.00E+00	-6.14E-03
Eutrophication	kg PO ₄ ³ e	1.57E-03	6.77E-05	9.34E-04	2.57E-03	2.43E-05	0.00E+00	MND	MND	MND	MND	MND	MND	MND	7.20E-07	6.27E-06	5.05E-04	0.00E+00	-1.74E-03
POCP (“smog”)	kg C ₂ H ₄ e	6.02E-04	1.16E-05	1.29E-04	7.43E-04	4.17E-06	0.00E+00	MND	MND	MND	MND	MND	MND	MND	1.06E-07	1.07E-06	1.51E-05	0.00E+00	-3.65E-04
ADP-elements	kg Sbe	7.45E-06	2.05E-07	4.32E-06	1.20E-05	7.37E-08	0.00E+00	MND	MND	MND	MND	MND	MND	MND	2.48E-09	1.90E-08	2.99E-07	0.00E+00	-3.24E-06
ADP-fossil	MJ	6.36E+01	1.36E+00	9.62E+00	7.46E+01	4.88E-01	0.00E+00	MND	MND	MND	MND	MND	MND	MND	2.32E-02	1.26E-01	7.89E-01	0.00E+00	-7.03E+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.