



ENVIRONMENTAL PRODUCT DECLARATION

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

Sol Mid Capacity

Bright Products



EPD HUB, HUB-3169

Published on 16.05.2025, last updated on 16.05.2025, valid until 15.05.2030

Life Cycle Assessment study has been performed in accordance with the requirements of EN 15804, EPD Hub PCR version 1.1 (5 Dec 2023) and JRC characterization factors EF 3.1.



Created with One Click LCA



GENERAL INFORMATION

MANUFACTURER

Manufacturer	Bright Products
Address	Holbergs gate 19, Oslo, Norway
Contact details	info@bright-products.com
Website	https://bright-products.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	Electrical product
Category of EPD	Third party verified EPD
Parent EPD number	-
Scope of the EPD	Cradle to gate with options, A4-B7, and modules C1-C4, D
EPD author	Fernando Manuel Barrios Acuna, BRIGHT Products AS
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal verification ☒ External verification
EPD verifier	Sarah Curpen, as an authorized verifier acting for EPD Hub Limited.

This EPD is intended for business-to-business and/or business-to-consumer communication. 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	Sol Mid Capacity
Additional labels	-
Product reference	-
Place(s) of raw material origin	-
Place of production	Xiamen, China
Place(s) of installation and use	-
Period for data	January 2023 to December 2023
Averaging in EPD	No averaging
Variation in GWP-fossil for A1-A3 (%)	-
GTIN (Global Trade Item Number)	-
NOBB (Norwegian Building Product Database)	-

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 unit of Sol Mid Capacity
Declared unit mass	0,404 kg
GWP-fossil, A1-A3 (kgCO ₂ e)	4,25E+00
GWP-total, A1-A3 (kgCO ₂ e)	3,98E+00
Secondary material, inputs (%)	34,6
Secondary material, outputs (%)	0
Total energy use, A1-A3 (kWh)	15,7
Net freshwater use, A1-A3 (m ³)	0,1

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

About BRIGHT Products

BRIGHT Products is a Norwegian company dedicated to developing sustainable solar lighting and energy solutions. With a strong focus on social impact, BRIGHT creates high-quality, user-friendly solar products that enhance everyday life in off-grid and energy-insecure areas. The company follows a sustainable design philosophy, ensuring that its products are durable, repairable, and environmentally responsible.

Manufacturing & Assembly

Sol Mid Capacity is produced through a global supply chain. The individual components, including the solar panel, battery, and LED module, are sourced from specialized suppliers. Final assembly takes place in Xiamen, China, where the parts are put together into the finished product. No manufacturing of components occurs at the assembly facility—only integration and quality control.

PRODUCT DESCRIPTION

Sol Mid Capacity – Reliable Solar Light with a Sustainable Design

Sol Mid Capacity by BRIGHT Products is a durable and versatile solar lamp designed for everyday use. Providing up to 280 hours of light on a single charge, it offers dependable illumination for households, workplaces, and outdoor activities. With an evenly diffused light output, Sol Mid Capacity functions as a lantern, a wall-mounted lamp, or a focused reading and task light. As of today, the lamp has been placed ONLY in REFUGEE CAMPS where there is NO access to the grid.

The lamp's casing is made entirely from 100% recycled plastic, reinforcing BRIGHT's commitment to sustainability. It is lightweight, easy to use, and designed for long-term reliability with simple maintenance and repairability.

Further information can be found at <https://bright-products.com/>.

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	4,75	China
Minerals	19,80	China
Fossil materials	54,25	China
Electronics	21,20	China

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	0,070



FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 unit of Sol Mid Capacity
Mass per declared unit	0,404 kg
Functional unit	Provide lighting that delivers an outgoing artificial luminous flux of 20 lumens during a reference lifetime of 5 years
Reference service life	5

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	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.

The product is made of metals, plastics and electronic components. The materials are transported to the company's facility, where the pieces are

assembled together. All pieces are purchase as is from different suppliers. The finished product is packaged in recycled cardboard before being sent to a potential refugee camp or disaster affected area.

The use of green energy in manufacturing is demonstrated through contractual instruments (GOs, RECs, etc.), and its use is ensured throughout the validity period of this EPD.

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.

Average distance of transportation from assembly plant to a refugee camp or disaster affected area is assumed as 9500 km and the transportation method is assumed to be freight sea followed by train (85 km) and road transportation of approximately 50 km. Vehicle capacity utilization volume factor is assumed to be 100 % which means full load. In reality, it may vary but as the role of transportation emissions in total results is small, the variety in load is assumed to be negligible. Empty returns are not considered as it is assumed that return trip is used by the transportation company to serve the needs of other clients. Transportation does not cause losses as products are packaged properly. Also, volume capacity utilisation factor is assumed to be 100 % for the nested packaged products. Transportation impacts that occur from delivery of the product cover direct exhaust emissions of fuel, environmental impacts of fuel production, as well as related infrastructure emissions. Environmental impacts from installation into the building include waste packaging materials (A5) and release of biogenic carbon dioxide from cardboard. The impacts of energy consumption and the used ancillary materials during installation are considered 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)

Predicting the exact end-of-life scenario for a portable solar lamp distributed to refugee camps is challenging due to various factors, including potential displacement and the informal nature of waste management in these regions.

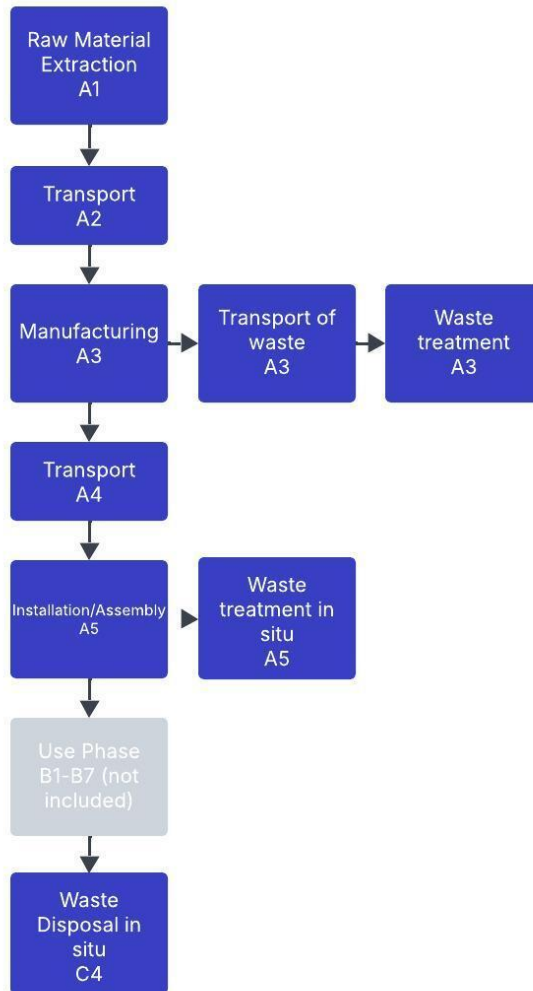
For this LCA, we have made a conservative assumption that the majority of these lamps will eventually end up incinerated locally. Considering the limited infrastructure and waste management practices in many refugee camps, we have assumed that the lamps will be incinerated locally at the refugee camp.

Given the precarious conditions of these incineration facilities, it is unlikely that any heat recovery or energy recovery systems are in place. Therefore, the incineration process is assumed to release all pollutants directly into the environment.

This assumption provides a worst-case scenario for the end-of-life phase of the product and allows for a conservative assessment of its overall environmental impact.



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.

VALIDATION OF DATA

Data collection for production, transport, and packaging was conducted using time and site-specific information, as defined in the general information section on page 1 and 2. Upstream process calculations rely on generic data as defined in the Bibliography section. Manufacturer-provided specific and generic data were used for the product's manufacturing stage. The analysis was performed in One Click LCA EPD Generator, with the 'Cut-Off, EN 15804+A2' allocation method, and characterization factors according to EN 15804:2012+A2:2019/AC2021 and JRC EF 3.1.

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	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 (%)	-

There is no average result considered in this study since this EPD refers to one specific product produced in one production plant.

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 v3.10.1 and One Click LCA databases as sources of environmental data. Allocation used in Ecoinvent 3.10.1 environmental data sources follow the methodology 'allocation, Cut-off, EN 15804+A2'.

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	4,04E+00	2,22E-02	-7,56E-02	3,98E+00	4,52E-02	2,81E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	1,02E+00	0,00E+00
GWP – fossil	kg CO ₂ e	4,03E+00	2,22E-02	1,96E-01	4,25E+00	4,52E-02	5,26E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	1,02E+00	0,00E+00
GWP – biogenic	kg CO ₂ e	0,00E+00	0,00E+00	-2,76E-01	-2,76E-01	0,00E+00	2,76E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
GWP – LULUC	kg CO ₂ e	6,54E-03	9,94E-06	4,38E-03	1,09E-02	2,88E-05	1,04E-06	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	2,44E-04	0,00E+00
Ozone depletion pot.	kg CFC-11e	2,49E-07	3,28E-10	1,69E-09	2,51E-07	6,41E-10	4,64E-11	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	1,58E-08	0,00E+00
Acidification potential	mol H ⁺ e	6,65E-02	7,57E-05	9,75E-04	6,76E-02	1,04E-03	1,18E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	1,41E-03	0,00E+00
EP-freshwater ²⁾	kg Pe	3,60E-03	1,73E-06	1,02E-04	3,70E-03	2,01E-06	7,25E-07	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	2,78E-04	0,00E+00
EP-marine	kg Ne	5,92E-03	2,49E-05	5,50E-04	6,49E-03	2,42E-04	5,97E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	3,31E-04	0,00E+00
EP-terrestrial	mol Ne	1,60E-01	2,71E-04	2,68E-03	1,63E-01	2,69E-03	6,22E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	3,26E-03	0,00E+00
POCP (“smog”) ³⁾	kg NMVOCe	1,93E-02	1,12E-04	7,24E-04	2,01E-02	7,56E-04	2,76E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	1,20E-03	0,00E+00
ADP-minerals & metals ⁴⁾	kg Sbe	4,99E-04	6,20E-08	4,44E-07	5,00E-04	6,34E-08	9,27E-09	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	2,66E-06	0,00E+00
ADP-fossil resources	MJ	5,38E+01	3,22E-01	2,37E+00	5,65E+01	5,64E-01	2,44E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	4,86E+00	0,00E+00
Water use ⁵⁾	m ³ e depr.	4,15E+00	1,59E-03	7,72E-02	4,23E+00	2,04E-03	8,94E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	8,88E-02	0,00E+00

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	4,38E-07	2,22E-09	1,47E-08	4,55E-07	1,83E-09	3,00E-10	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	1,59E-08	0,00E+00
Ionizing radiation ⁶⁾	kBq 11235e	3,39E-01	2,81E-04	1,30E-02	3,53E-01	3,47E-04	4,65E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	1,25E-02	0,00E+00
Ecotoxicity (freshwater)	CTUe	5,73E+01	4,56E-02	1,03E+00	5,84E+01	5,25E-02	2,02E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	1,44E+01	0,00E+00
Human toxicity, cancer	CTUh	3,87E-09	3,67E-12	1,80E-10	4,05E-09	9,84E-12	6,57E-11	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	1,12E-09	0,00E+00
Human tox. non-cancer	CTUh	2,98E-07	2,09E-10	1,10E-09	3,00E-07	1,79E-10	1,89E-09	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	3,45E-09	0,00E+00
SQP ⁷⁾	-	2,09E+01	3,25E-01	1,36E+01	3,49E+01	1,25E-01	7,37E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	8,17E-01	0,00E+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	8,19E+00	4,42E-03	-1,26E+00	6,93E+00	5,90E-03	-2,63E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	2,02E-01	0,00E+00
Renew. PER as material	MJ	0,00E+00	0,00E+00	2,86E+00	2,86E+00	0,00E+00	-2,86E+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	8,19E+00	4,42E-03	1,60E+00	9,79E+00	5,90E-03	-5,49E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	2,02E-01	0,00E+00
Non-re. PER as energy	MJ	4,69E+01	3,22E-01	2,34E+00	4,96E+01	5,64E-01	2,44E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	-2,01E+00	0,00E+00
Non-re. PER as material	MJ	6,91E+00	0,00E+00	5,77E-02	6,97E+00	0,00E+00	-5,77E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	-6,91E+00	0,00E+00
Total use of non-re. PER	MJ	5,39E+01	3,22E-01	2,40E+00	5,66E+01	5,64E-01	-3,33E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	-8,92E+00	0,00E+00
Secondary materials	kg	1,40E-01	1,37E-04	1,36E-01	2,76E-01	3,25E-04	3,58E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	1,39E-03	0,00E+00
Renew. secondary fuels	MJ	2,52E-03	1,74E-06	3,59E-02	3,84E-02	1,06E-06	5,87E-07	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	2,43E-05	0,00E+00
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	1,02E-01	4,77E-05	1,70E-03	1,04E-01	5,10E-05	1,19E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	2,28E-03	0,00E+00

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	5,03E-01	5,46E-04	1,80E-02	5,21E-01	9,40E-04	1,95E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	9,35E-02	0,00E+00
Non-hazardous waste	kg	1,62E+01	1,01E-02	3,09E-01	1,65E+01	1,34E-02	1,66E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	4,57E-01	0,00E+00
Radioactive waste	kg	8,44E-05	6,87E-08	3,18E-06	8,76E-05	8,49E-08	1,18E-08	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	3,25E-06	0,00E+00

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	2,20E-02	2,20E-02	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
Exported energy – Electricity	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
Exported energy – Heat	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	4,02E+00	2,21E-02	2,19E-01	4,26E+00	4,50E-02	1,47E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	1,01E+00	0,00E+00
Ozone depletion Pot.	kg CFC-11e	2,27E-07	2,62E-10	1,45E-09	2,29E-07	5,10E-10	4,16E-11	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	1,51E-08	0,00E+00
Acidification	kg SO ₂ e	4,93E-02	5,78E-05	7,59E-04	5,01E-02	8,35E-04	8,22E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	1,15E-03	0,00E+00
Eutrophication	kg PO ₄ ³ e	1,53E-02	1,41E-05	1,03E-03	1,64E-02	8,79E-05	4,32E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	2,10E-04	0,00E+00
POCP (“smog”)	kg C ₂ H ₄ e	2,14E-03	5,15E-06	6,19E-05	2,20E-03	4,21E-05	1,40E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	7,66E-05	0,00E+00
ADP-elements	kg Sbe	4,97E-04	6,04E-08	4,56E-07	4,98E-04	6,24E-08	6,35E-09	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	1,38E-06	0,00E+00
ADP-fossil	MJ	4,84E+01	3,18E-01	2,15E+00	5,09E+01	5,59E-01	2,36E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	4,66E+00	0,00E+00



ENVIRONMENTAL IMPACTS – GWP-GHG - THE INTERNATIONAL EPD SYSTEM

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-GHG ⁹⁾	kg CO ₂ e	4,04E+00	2,22E-02	2,00E-01	4,26E+00	4,52E-02	5,26E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	1,02E+00	0,00E+00

9) This indicator includes all greenhouse gases excluding biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product as defined by IPCC AR 5 (IPCC 2013). In addition, the characterisation factors for the flows - CH₄ fossil, CH₄ biogenic and Dinitrogen monoxide - were updated in line with the guidance of IES PCR 1.2.5 Annex 1. This indicator is identical to the GWP-total of EN 15804:2012+A2:2019 except that the characterization factor for biogenic CO₂ is set to zero.

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.

Sarah Curpen, as an authorized verifier acting for EPD Hub Limited.
16.05.2025

