ENVIRONMENTAL PRODUCT DECLARATION

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

CLARITY 333 XC
Solar Screen International

EPD HUB, HUB-2228
Publishing date 22 December 2024, last updated on 22 December 2024, valid until 22 December 2029.

Created with One Click LCA

GENERAL INFORMATION

MANUFACTURER

Manufacturer	Solar Screen International
Address	18 Rue du Commerce, 3895 Foetz Mondercange, Luxembourg
Contact details	info@solarscreen.eu
Website	https://solarscreen.eu/fr/

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
Parent EPD number	-
Scope of the EPD	Cradle to gate with options, A4-B7, and modules C1-C4, D
EPD author	Arnaud SCHMIT / Solar Screen International
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal verification ☑ External verification
EPD verifier	Magaly González Vázquez, 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	CLARITY 333 XC
Additional labels	N/A
Product reference	CLARITY 333 XC
Place of production	India
Period for data	Calendar year 2022
Averaging in EPD	No averaging
Variation in GWP-fossil for A1-A3	-

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 m²
Declared unit mass	0.124 kg
GWP-fossil, A1-A3 (kgCO2e)	2,20E+00
GWP-total, A1-A3 (kgCO2e)	2,08E+00
Secondary material, inputs (%)	2.1
Secondary material, outputs (%)	37.5
Total energy use, A1-A3 (kWh)	8
Net freshwater use, A1-A3 (m3)	0.01

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

Founded in 1984, SOLAR SCREEN® has consistently set the standard for innovation in the window film industry, supporting a vast network of over 5,000 professional applicators across Europe. As a trusted partner of the world's leading film manufacturers, we are proud to offer our installers an unparalleled service that reflects our commitment to excellence in every aspect of our business.

At SOLAR SCREEN®, we place a premium on quality and the reliable availability of our products. This commitment is embedded in our corporate philosophy and guides everything we do. To demonstrate our dedication to delivering exceptional value to our clients, we have integrated a robust quality management system aligned with the UNE-EN ISO 9001:2015 standard. This system allows us to rigorously monitor and measure our performance, ensuring that we not only meet but exceed industry benchmarks.

Our continuous pursuit of improvement ensures that our products and services consistently meet the evolving needs and expectations of our clients. By adhering to the highest quality standards, SOLAR SCREEN® maintains full compliance with regulatory requirements while enhancing customer satisfaction at every touchpoint.

In addition to our focus on quality, SOLAR SCREEN® is deeply committed to reducing our environmental impact. Sustainability is a core objective of our long-term strategy, and we actively strive to minimize our environmental footprint in all areas of our operations. As part of our ongoing efforts to improve our corporate social responsibility, we continuously work towards optimizing our CO2 footprint.

PRODUCT DESCRIPTION

The CLARITY 333XC solar control window film is a high-performance, multilayer, metal-free, spectrally selective film designed for building applications. This advanced film incorporates anti-UV and reflective coatings, aiming to enhance the solar factor of glass in buildings while maintaining high levels of light transmission. Its metal-free composition ensures the neutrality of the glass, preserving its aesthetic qualities. The CLARITY 333XC is specifically engineered for the premium market, providing superior solar control and energy efficiency for building renovations and new constructions. By reducing solar heat gain, this film significantly improves indoor comfort and energy savings, making it an ideal choice for environmentally conscious projects.

Using a calculator developed by Energie Agence (a subsidiary of Luxembourg State specializing in energy efficiency), we estimated an average reduction in the energy consumption of HVAC systems with the installation of CLARITY 333XC. Based on high-performance HVAC systems with a Seasonal Coefficient of Performance (SCOP) of 3.5 and an Energy Efficiency Seasonal Ratio (ESEER) of 3, the annual energy savings are estimated to be 72 kWh per square meters annually. Given that the product is intended for professional buildings where HVAC systems are present, it is possible to consider this energy gain.

Further information can be found at https://solarscreen.eu/fr/.

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	0	-
Minerals	<1%	Asia
Fossil materials	99	Asia
Bio-based materials	0	-

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	0.3327

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 m²
Mass per declared unit	0.124 kg
Functional unit	1m² with 10 years of warranty, and is used for being equipped on existing glass in order to reduce solar energy intake within a building
Reference service life	10 years

SUBSTANCES, REACH - VERY HIGH CONCERN

The product does not contain any REACH SVHC substances in amounts greater than 0,1%.

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	x	x	x	x	x	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 Material Supply includes the acquisition of raw materials declared in A1-A3 from local and wordlwide suppliers, as well as the packaging used to ship the raw materials (A1). All raw materials are transported from the source to the manufacturing site by truck and/or boat (A2). Typically, raw materials must be packaged for transport. The loading and unloading of raw materials are not included in the study. Production encompasses all stages carried out at the manufacturing sites to produce the final product, including auxiliaries, packaging materials used, and waste produced (A3) and including processing utilities
(e.g., electricity, steam, etc.) which are part of A1. The environmental profile of these energy vectors is modelled based on local conditions. The machinery and facilities (capital goods) necessary for production and during production are also considered.

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.

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.
For transportation (A4), the study focuses on Europe, assuming a distribution distance of 260 km by truck (>32 metric tons), 12,701 km by container ship, 269 km by train, and an average of 1336 km by truck to reach the installation site.

Installation (A5) involves applying the film to the exterior surface of windows in a European building. The process includes cleaning the exterior window surfaces with water (0.2 kg/m², 0.01 m³) and soap (0.005 kg/m²) before manually applying the window film.

Potential need for cherry pickers or scaffolding to reach installation window is not considered in this model, as well as the driving distance of the installation team.

PRODUCT USE AND MAINTENANCE (B1-B7)

During the Use Phase (B2), we consider that the product requires maintenance similar to standard glazing 0,2kg of water per square meter each year. Since the product has a warranty of 10years, we took in consideration 10 years of water consumption.

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

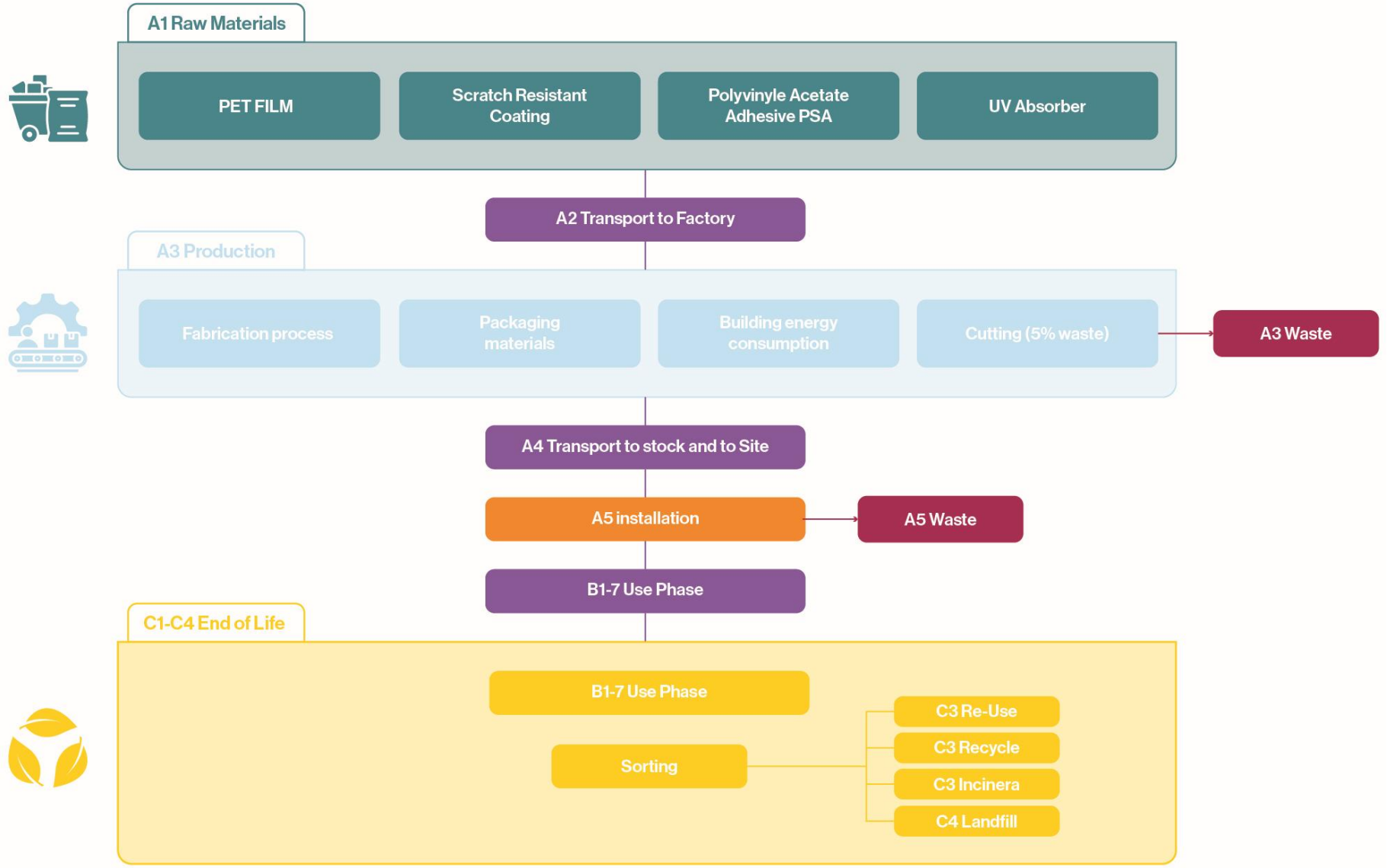
PRODUCT END OF LIFE (C1-C4, D)

For the Deconstruction Phase, we have accounted for the removal of the CLARITY 333XC from the existing glazing using the same amount of water as used during installation. Additionally, the labour is performed manually. We assume that the waste treatment facility is within a 50 km radius of the deconstruction site. Regarding the Recycling Phase, it is not considered because, in practice, the product is composed of 87% PET, which is degraded by sunlight and polluted from it environment.

Therefore, we assume that the entire product is not recycled but incinerated.

As the EoL as been considered as incineration, we can consider that benefits and loads can be estimated. Energy from utilization of the boards in an incineration plant is assigned to module D. It is also assumed that the thermal energy of the incineration process is higher than 60%. Energy produced in the form of electricity and thermal energy replaces thermal energy and electrical energy in accordance with the Eupropean mix.

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	No allocation
Packaging material	No allocation
Ancillary materials	Not applicable
Manufacturing energy and waste	No allocation

AVERAGES AND VARIABILITY

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

This EPD is product and factory specific and does not contain average calculations.

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 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	6,11E-01	3,08E-04	1,47E+00	2,08E+00	7,41E-02	3,01E-01	MND	2,55E-03	MND	MND	MND	MND	MND	0,00E+00	1,74E-03	2,55E-01	0,00E+00	-8,29E-01
GWP – fossil	kg CO_2e	6,11E-01	3,08E-04	1,59E+00	2,20E+00	7,41E-02	1,71E-01	MND	2,55E-03	MND	MND	MND	MND	MND	0,00E+00	1,74E-03	2,55E-01	0,00E+00	-8,27E-01
GWP – biogenic	kg CO_2e	0,00E+00	0,00E+00	-1,23E-01	-1,23E-01	0,00E+00	1,23E-01	MND	0,00E+00	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-8,76E-04
GWP – LULUC	kg CO_2e	4,21E-04	1,13E-07	3,26E-03	3,68E-03	3,48E-05	7,22E-03	MND	2,15E-06	MND	MND	MND	MND	MND	0,00E+00	6,59E-07	1,06E-06	0,00E+00	-1,05E-03
Ozone depletion pot.	kg $CFC\text{-}_{11}$e	1,71E-06	5,58E-12	4,81E-07	2,19E-06	1,07E-09	1,10E-07	MND	4,62E-10	MND	MND	MND	MND	MND	0,00E+00	2,92E-11	9,50E-11	0,00E+00	-2,45E-06
Acidification potential	mol H^+e	2,74E-03	1,16E-06	7,27E-03	1,00E-02	1,07E-03	6,51E-04	MND	1,32E-05	MND	MND	MND	MND	MND	0,00E+00	6,30E-06	5,11E-05	0,00E+00	-3,93E-03
EP-freshwater[2)]	kg Pe	1,97E-05	2,57E-09	1,58E-04	1,78E-04	5,54E-07	1,01E-05	MND	9,58E-08	MND	MND	MND	MND	MND	0,00E+00	1,50E-08	3,78E-07	0,00E+00	-4,02E-05
EP-marine	kg Ne	4,67E-04	4,12E-07	1,33E-03	1,79E-03	2,81E-04	1,94E-04	MND	2,48E-06	MND	MND	MND	MND	MND	0,00E+00	2,16E-06	2,99E-05	0,00E+00	-5,84E-04
EP-terrestrial	mol Ne	5,12E-03	4,53E-06	1,52E-02	2,03E-02	3,12E-03	1,52E-03	MND	2,76E-05	MND	MND	MND	MND	MND	0,00E+00	2,38E-05	2,65E-04	0,00E+00	-6,45E-03
POCP ("smog")[3)]	kg NMVOCe	2,46E-03	1,79E-06	4,31E-03	6,78E-03	9,16E-04	4,51E-04	MND	8,42E-06	MND	MND	MND	MND	MND	0,00E+00	9,55E-06	6,56E-05	0,00E+00	-3,32E-03
ADP-minerals & metals[4)]	kg Sbe	4,71E-06	8,56E-10	1,96E-06	6,67E-06	1,50E-07	4,62E-07	MND	1,20E-08	MND	MND	MND	MND	MND	0,00E+00	4,83E-09	9,06E-09	0,00E+00	-6,09E-06
ADP-fossil resources	MJ	1,17E+01	4,48E-03	1,92E+01	3,10E+01	1,00E+00	1,69E+00	MND	3,04E-02	MND	MND	MND	MND	MND	0,00E+00	2,52E-02	3,94E-02	0,00E+00	-2,21E+01
Water use[5)]	m^3e depr.	1,83E-01	2,21E-05	3,58E-01	5,41E-01	4,26E-03	5,63E-02	MND	5,78E-04	MND	MND	MND	MND	MND	0,00E+00	1,23E-04	4,67E-03	0,00E+00	-3,08E-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	2,81E-08	3,10E-11	3,14E-08	5,95E-08	5,37E-09	4,90E-09	MND	1,66E-10	MND	MND	MND	MND	MND	0,00E+00	1,74E-10	3,08E-10	0,00E+00	-3,23E-08
Ionizing radiation[6)]	kBq U235e	1,31E-02	1,81E-06	3,29E-02	4,60E-02	3,21E-04	2,46E-03	MND	8,49E-05	MND	MND	MND	MND	MND	0,00E+00	9,61E-06	2,28E-05	0,00E+00	-5,82E-02
Ecotoxicity (freshwater)	CTUe	3,38E+00	1,07E-03	4,38E+00	7,75E+00	2,25E-01	8,35E-01	MND	2,04E-02	MND	MND	MND	MND	MND	0,00E+00	6,05E-03	1,55E-01	0,00E+00	-3,66E+00
Human toxicity, cancer	CTUh	2,04E-09	1,77E-12	1,48E-09	3,52E-09	3,68E-10	3,39E-10	MND	4,03E-11	MND	MND	MND	MND	MND	0,00E+00	9,45E-12	5,10E-11	0,00E+00	-2,45E-09
Human tox. non-cancer	CTUh	1,50E-08	2,97E-12	1,60E-08	3,11E-08	5,04E-10	2,23E-09	MND	7,55E-11	MND	MND	MND	MND	MND	0,00E+00	1,67E-11	7,74E-10	0,00E+00	-8,57E-09
SQP[7)]	-	1,78E+00	4,51E-03	6,47E+00	8,25E+00	6,43E-01	1,02E+00	MND	6,27E-03	MND	MND	MND	MND	MND	0,00E+00	2,54E-02	8,56E-03	0,00E+00	-2,69E+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	5,10E-01	6,64E-05	1,40E+00	1,91E+00	1,24E-02	-7,71E-01	MND	2,88E-03	MND	MND	MND	MND	MND	0,00E+00	3,57E-04	1,05E-03	0,00E+00	-1,69E+00
Renew. PER as material	MJ	0,00E+00	0,00E+00	4,43E-01	4,43E-01	0,00E+00	-4,43E-01	MND	0,00E+00	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	8,13E-03
Total use of renew. PER	MJ	5,10E-01	6,64E-05	1,84E+00	2,35E+00	1,24E-02	-1,21E+00	MND	2,88E-03	MND	MND	MND	MND	MND	0,00E+00	3,57E-04	1,05E-03	0,00E+00	-1,69E+00
Non-re. PER as energy	MJ	8,63E+00	4,48E-03	1,83E+01	2,69E+01	1,00E+00	4,39E-01	MND	3,04E-02	MND	MND	MND	MND	MND	0,00E+00	2,52E-02	-2,80E+00	0,00E+00	-1,90E+01
Non-re. PER as material	MJ	3,08E+00	0,00E+00	8,26E-01	3,91E+00	0,00E+00	-8,28E-01	MND	0,00E+00	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	-3,08E+00	0,00E+00	3,85E-01
Total use of non-re. PER	MJ	1,17E+01	4,48E-03	1,91E+01	3,08E+01	1,00E+00	-3,89E-01	MND	3,04E-02	MND	MND	MND	MND	MND	0,00E+00	2,52E-02	-5,88E+00	0,00E+00	-1,86E+01
Secondary materials	kg	2,60E-03	1,92E-06	2,34E-03	4,95E-03	4,85E-04	4,20E-04	MND	7,86E-05	MND	MND	MND	MND	MND	0,00E+00	1,08E-05	5,92E-05	0,00E+00	3,08E-02
Renew. secondary fuels	MJ	3,16E-05	2,43E-08	4,97E-03	5,00E-03	3,75E-06	2,52E-04	MND	6,85E-08	MND	MND	MND	MND	MND	0,00E+00	1,37E-07	1,97E-07	0,00E+00	-8,62E-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	0,00E+00	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	4,66E-03	6,50E-07	8,30E-03	1,30E-02	1,20E-04	1,27E-03	MND	1,99E-03	MND	MND	MND	MND	MND	0,00E+00	3,66E-06	4,62E-05	0,00E+00	-8,15E-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	3,72E-02	6,94E-06	8,36E-02	1,21E-01	1,69E-03	8,58E-03	MND	2,86E-04	MND	MND	MND	MND	MND	0,00E+00	4,06E-05	2,00E-03	0,00E+00	-4,72E-02
Non-hazardous waste	kg	1,19E+00	1,35E-04	7,09E+00	8,28E+00	2,87E-02	7,35E-01	MND	4,45E-02	MND	MND	MND	MND	MND	0,00E+00	7,73E-04	3,34E-01	0,00E+00	-2,20E+00
Radioactive waste	kg	8,71E-06	1,20E-09	1,85E-05	2,72E-05	2,00E-07	1,47E-06	MND	5,20E-08	MND	MND	MND	MND	MND	0,00E+00	6,26E-09	1,45E-08	0,00E+00	-4,49E-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	0,00E+00	MND	0,00E+00	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	5,19E-02	MND	0,00E+00	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	1,02E-02	MND	0,00E+00	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	1,23E-01	0,00E+00	0,00E+00
Exported energy	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,38E-02	MND	0,00E+00	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	4,24E+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	6,06E-01	3,06E-04	1,58E+00	2,19E+00	7,37E-02	1,86E-01	MND	2,54E-03	MND	MND	MND	MND	MND	0,00E+00	1,73E-03	2,55E-01	0,00E+00	-8,13E-01
Ozone depletion Pot.	kg CFC_{-11}e	1,14E-06	4,44E-12	3,22E-07	1,46E-06	8,56E-10	7,34E-08	MND	5,63E-10	MND	MND	MND	MND	MND	0,00E+00	2,33E-11	9,65E-11	0,00E+00	-1,63E-06
Acidification	kg SO_2e	2,29E-03	8,71E-07	5,99E-03	8,28E-03	8,45E-04	5,22E-04	MND	1,09E-05	MND	MND	MND	MND	MND	0,00E+00	4,76E-06	3,55E-05	0,00E+00	-3,32E-03
Eutrophication	kg PO_4^3e	4,03E-03	2,17E-07	1,83E-03	5,86E-03	1,09E-04	3,57E-04	MND	1,49E-06	MND	MND	MND	MND	MND	0,00E+00	1,17E-06	1,74E-05	0,00E+00	-4,06E-03
POCP (“smog”)	kg C_2H_4e	2,08E-04	7,66E-08	3,43E-04	5,51E-04	4,66E-05	4,18E-05	MND	7,14E-07	MND	MND	MND	MND	MND	0,00E+00	4,21E-07	2,36E-06	0,00E+00	-2,59E-04
ADP-elements	kg Sbe	4,64E-06	8,35E-10	1,94E-06	6,58E-06	1,47E-07	4,47E-07	MND	1,13E-08	MND	MND	MND	MND	MND	0,00E+00	4,71E-09	7,67E-09	0,00E+00	-6,03E-06
ADP-fossil	MJ	1,17E+01	4,48E-03	1,92E+01	3,10E+01	1,00E+00	1,69E+00	MND	3,04E-02	MND	MND	MND	MND	MND	0,00E+00	2,52E-02	3,94E-02	0,00E+00	-2,21E+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

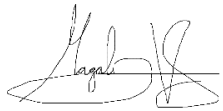
I hereby confirm that, following detailed examination, I have not established any relevant deviations by the studied Environmental Product Declaration (EPD), its LCA and project report, in terms of the data collected and used in the LCA calculations, the way the LCA-based calculations have been carried 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.

Magaly González Vázquez, as an authorized verifier acting for EPD Hub Limited
22.12.2024



EPD Hub
VERIFIED ISO 14025