ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH ISO 21930 & ISO 14025

HYDROTEX

EPD HUB, HUB-3564
Published on 04.07.2025, last updated on 13.09.2025, valid until 03.07.2030

Life Cycle Assessment study has been performed in accordance with the requirements of ISO 21930 & ISO 14025, 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	Synthetex
Address	5550 Triangle Parkway, Suite 220, Peachtree Corners, GA, 30092 USA
Website	https://synthetex.com/

EPD STANDARDS, SCOPE AND VERIFICATION

Program operator	EPD Hub, hub@epdhub.com
Reference standard	ISO 21930:2017 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-A5, and modules C1-C4, D
EPD author	Anais Grandclerc, Geoquest
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal verification ☑ External verification
EPD verifier	Haiha Nguyen, 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 ISO 21930 and if they are not compared in a building context.

PRODUCT

Product name	Hydrotex
Place of production	GA, USA
Period for data	January 2024 - December 2024
Averaging in EPD	Multiple products
Variation in GWP-fossil for A1-A3	[-9,2% ; +6,4%]

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 kg
Declared unit mass	1 kg
GWP-fossil, A1-A3 (kgCO2e)	6,70E+00
GWP-total, A1-A3 (kgCO2e)	6,39E+00
Secondary material, inputs (%)	1,71
Secondary material, outputs (%)	0
Total energy use, A1-A3 (kWh)	27,6
Net freshwater use, A1-A3 (m3)	0,04

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

Synthetex is the manufacturer of HYDROTEX, a highly engineered fabric form for concrete casting. HYDROTEX® fabric formwork has been utilized on more than 75 million ft² of installations around the world, used in-situ casting of concrete erosion control, scour protection, and geomembrane liner systems. Synthetex operates with global markets with strategically engaged HYDROTEX manufacturing facilities in the United States. The global operations are positioned to serve the infrastructure, energy, industrial, and environmental markets.
HYDROTEX fabric-formed concrete has been installed in all seven continents—including Antarctica.
Synthetex is dedicated to sustainability, by providing geological protection through the innovative products they design. When using HYDROTEX, they work together to participate in developing an effective and environmentally friendly solution.
HYDROTEX is a highly adaptable concrete system, which dramatically reduces the carbon footprint of any project. There are many green benefits with using HYDROTEX products, ensuring a sustainable solution locally and globally.

PRODUCT DESCRIPTION

HYDROTEX® is fabric-formed concrete mattresses, the top permanent erosion control solution for bridges, rivers, canals, and more. HYDROTEX® fabric-formed concrete is 100% customizable, easy to install, and permanent. HYDROTEX® fabric formworks are used to cast concrete systems that permanently control, remediate, prevent, and protect against erosion and scour.
HYDROTEX linings are installed by positioning fabric forms over the areas to be protected and then pumping high-strength, fine aggregate concrete into them. The concrete lining can be placed either on land or underwater. The high-strength, fine aggregate concrete is used in place of conventional concrete because of its ability to pump with fine aggregate concrete, strength, density, and absorption resistance.

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

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	0	
Minerals	0	
Fossil materials	86,8	PET yarn: 42% from China and 58% from India. Nylon yarn: 100% from the USA
Bio-based materials	13,2	Wood pallet and cardboard for packaging from USA

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	0,086

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 kg
Mass per declared unit	1 kg

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.

A market-based approach is used in modelling the electricity mix utilized in the factory.
The process involves purchasing PET yarns, which are then woven together to form a robust geotextile. The yarns are interlaced using specialized weaving techniques to create a durable, flexible fabric. The product is lined with two layers of polyethylene terephthalate and sewn with nylon thread. This geotextile is supplied in rolled form around a cardboard core and on a wood pallet to avoid damage during transportation, handling, lifting, and installation.
No water is used to manufacture this product.
The energy used for the production plant is divided into two items: the first one is the electricity (energy mix from Georgia, USA) and the second one is propane used for the movements of the products inside the plant with some forklifts.
The wastes of raw material from the manufacturing plant represent 3% of the total purchased PET and 0.01% of the nylon yarn and they are sent to sanitary landfill in USA.

The transportation distances considered for PET yarns (from the supplier to the manufacturing plant) are averaged between two sources: 42% of the total purchased PET yarns comes from China and 58% comes from India. The distance considered for A2 is then equal to 18489 km by boat and 532 km by lorry.
The transportation distances considered for nylon yarns (from the supplier to the manufacturing plant) are averaged between two sources: 50% of the total purchased PET yarns comes from Tennessee and 50% comes from North Carolina. The distance considered for A2 is then equal to 535 km by lorry.
The transportation distances considered for the packaging materials are equal to 50 km (hypothesis).

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 does not cause losses as products are packaged properly. Freight mode and distances for transportation from the production site to the construction site has been approached by an averaged transport scenario

based on a barycentric method applied to sales on a representative year (an average of 1321 km by lorry over the reference period which is 2024).

Regarding the product installation process on-site, we have considered a zero impact since the product is installed manually (no fuel is used for the installation).
The packaging waste treatments have been considered in this step. The wood pallet is crushed for resale as fuel and the cardboard is incinerated. A distance of 50 km are considered from the construction site to the waste treatment location.

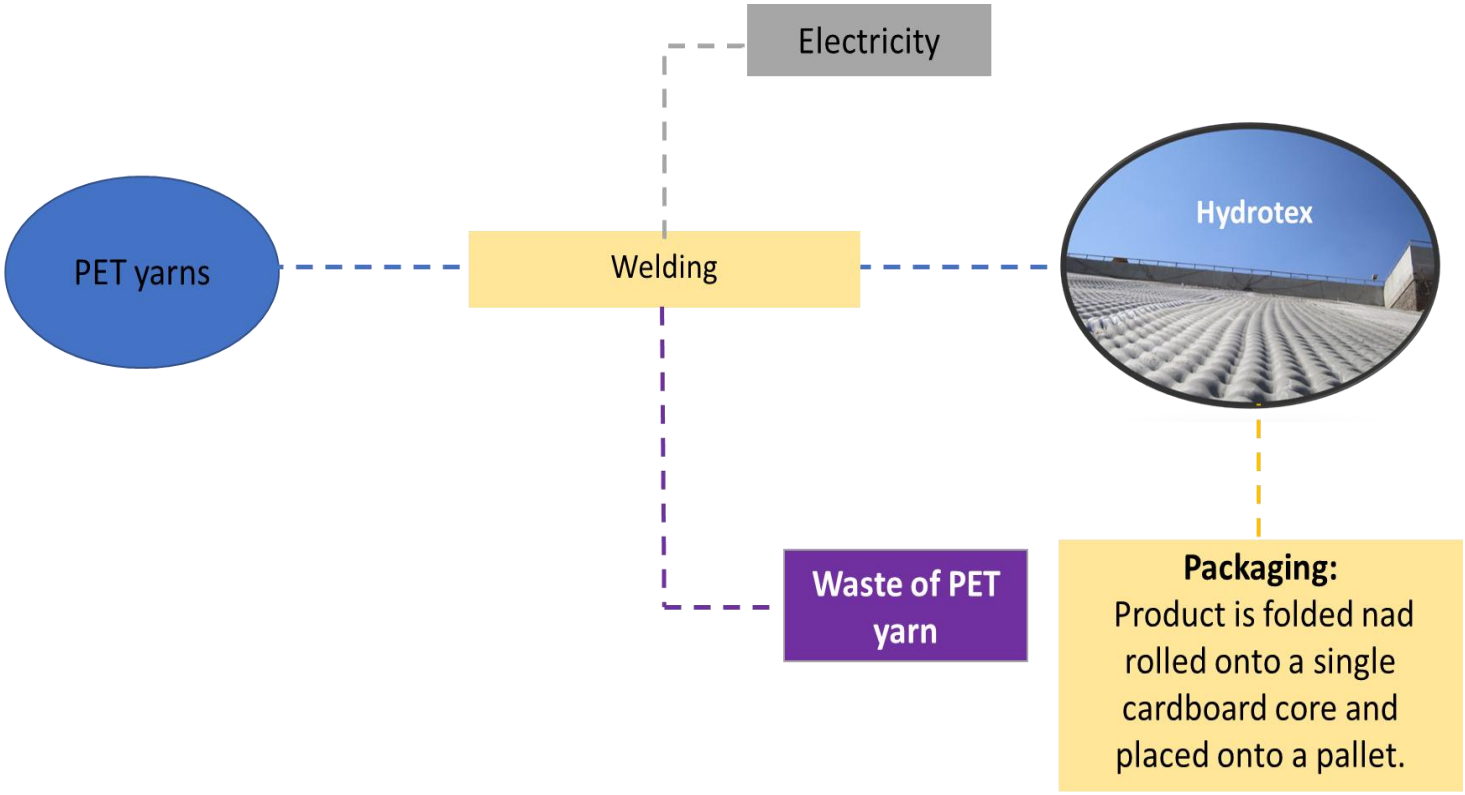
PRODUCT USE AND MAINTENANCE (B1-B7)

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)

The Hydrotex product is a temporary material used as a formwork for concrete injection. The geosynthetic covered by this EPD gradually deteriorates and eventually decomposes due to UV radiation for the exposed, non-submerged part, and through hydrolysis for the submerged part. A total decomposition is assumed after several decades. As a result, no impact is considered for C1 (demolition/deconstruction) and the end-of-life scenario considered assumes that 100% of the product is sent to a landfill (C4). A distance of 0 km is considered because the product is not actually sent to a landfill but submitted to the natural environment.

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.

The production of capital equipment, construction activities, and infrastructure, maintenance and operation of capital equipment, personnel-related activities, energy and water use related to company management and sales activities are excluded.

The packaging of raw materials has been excluded.
The following components fall below the threshold of 5% of the total mass of the finished product and are therefore excluded from the model.
For ancillaries materials: seizer (<0.01%), cabling, zippers, grommets, glue, and cable swages
For packaging materials: PE bagging material, outer woven bag material (prior to palletization), and the strapping used to secure the product to the pallet.

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

More details below:

- No water is used to produce Hydrotex.
- Electricity consumption for 1 kg of produced product is obtained by dividing the reported annual electricity consumption by the annual weight of product produced.
- Same principle as for electricity consumption is applied for percentage of waste for raw materials.
- Vehicle capacity utilization volume factor is assumed to be 1 which means full load. In reality it may vary but as the role of transportation emission in total results is small and so the variety in load assumed to be negligible. Empty returns are not taken into account as it is assumed that return trip is used by transportation companies to serve the needs of other clients.

PRODUCT & MANUFACTURING SITES GROUPING

Type of grouping	Multiple products
Grouping method	Based on a representative product
Variation in GWP-fossil for A1-A3, %	[-9.2% ; +6.4%]

Several types of Hydrotex products are manufactured at the plant. The base remains the same, but some are sewn with nylon yarn, while others are not. The formula used in the EPD is the average of the products with nylon, as they are the most representative.

The formula with the highest CO_2 emissions (i.e., the one without nylon yarn) has an emission factor for A1–A3 equal to 580 kgCO_2e/kg.
The formula with the lowest CO_2 emissions (i.e., the one with nylon yarn) has an emission factor for A1–A3 equal to 680 kgCO_2e/kg.
The average product used for the EPD has an emission factor for A1–A3 equal to 639 kgCO_2e/kg.

The difference between the average and the highest-emitting formula is less than 50% (6,4% difference), and the difference between the average and the lowest-emitting formula is also less than 50% (-9,2% difference).

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

ENVIRONMENTAL IMPACTS – TRACI 2.1. / 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	5,05E+00	2,77E-01	6,79E-01	6,00E+00	1,56E-01	4,57E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	1,14E-01	-1,36E-01
Ozone Depletion	kg $CFC_{-11}e$	1,40E-05	4,33E-09	5,43E-08	1,40E-05	2,68E-09	5,24E-11	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	7,85E-11	-2,24E-09
Acidification	kg SO_2e	1,99E-02	5,04E-03	2,92E-03	2,78E-02	3,48E-04	2,17E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	4,11E-05	-9,55E-04
Eutrophication	kg Ne	1,08E-02	2,06E-04	8,43E-04	1,19E-02	4,29E-05	4,36E-06	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	6,31E-05	-4,19E-05
POCP (“smog”)	kg O_3e	2,71E-01	9,58E-02	4,76E-02	4,14E-01	7,44E-03	4,67E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	1,40E-03	-9,29E-03
ADP-fossil	MJ	7,20E+01	3,62E+00	1,78E+00	7,74E+01	2,38E+00	5,21E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	-2,29E+01	-1,47E+00

ADDITIONAL (OPTIONAL) ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2

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-07	1,19E-08	2,08E-08	3,14E-07	1,55E-08	2,97E-10	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	1,37E-09	-1,35E-08
Ionizing radiation6)	kBq	2,81E-01	1,97E-03	2,58E-01	5,41E-01	2,06E-03	2,50E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	1,15E-04	-1,90E-03
Ecotoxicity (freshwater)	CTUe	1,70E+01	3,41E-01	6,35E+00	2,37E+01	3,34E-01	7,62E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	1,32E+00	-1,72E-01
Human toxicity, cancer	CTUh	1,16E-09	5,03E-11	4,47E-10	1,66E-09	2,63E-11	3,74E-12	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	4,30E-12	-3,11E-11
Human tox. non-cancer	CTUh	4,43E-08	1,26E-09	4,38E-09	4,99E-08	1,53E-09	1,54E-10	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	7,71E-10	-2,96E-10
SQP7)	-	1,24E+01	1,08E+00	3,61E+01	4,95E+01	2,39E+00	2,18E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	5,22E-01	-3,69E-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 energy8)	MJ	4,50E+00	3,30E-02	3,15E+00	7,68E+00	3,25E-02	-7,07E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	-1,06E+00	-2,54E+00
Renew. PER as material	MJ	0,00E+00	0,00E+00	2,84E+00	2,84E+00	0,00E+00	-2,84E+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	4,50E+00	3,30E-02	5,98E+00	1,05E+01	3,25E-02	-3,54E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	-1,06E+00	-2,54E+00
Non-re. PER as energy	MJ	7,44E+01	3,30E+00	1,38E+01	9,15E+01	2,38E+00	5,14E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	-2,09E+01	-1,47E+00
Non-re. PER as material	MJ	2,45E+01	0,00E+00	-4,64E-01	2,40E+01	0,00E+00	-1,45E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	-2,39E+01	0,00E+00
Total use of non-re. PER	MJ	9,89E+01	3,30E+00	1,34E+01	1,16E+02	2,38E+00	-9,38E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	-4,48E+01	-1,47E+00
Secondary materials	kg	1,71E-02	1,54E-03	2,73E-02	4,59E-02	1,01E-03	3,04E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	3,57E-05	-7,35E-05
Renew. secondary fuels	MJ	2,23E-04	8,91E-06	6,31E-02	6,33E-02	1,28E-05	3,26E-07	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	2,72E-07	-3,28E-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	m3	3,60E-02	3,13E-04	7,35E-03	4,37E-02	3,57E-04	6,12E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	-4,33E-04	-5,12E-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	3,04E-01	4,87E-03	1,89E-02	3,27E-01	4,00E-03	1,00E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	1,64E-04	-4,43E-03
Non-hazardous waste	kg	9,27E+00	7,66E-02	7,33E-01	1,01E+01	7,41E-02	4,71E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	1,48E+00	6,87E-02
Radioactive waste	kg	6,86E-05	4,80E-07	9,87E-05	1,68E-04	5,05E-07	6,10E-08	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	2,82E-08	-4,48E-07

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	1,45E-01	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	4,70E-01	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	7,00E-02	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	4,00E-01	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 CO2e	5,71E+00	2,54E-01	6,78E-01	6,64E+00	1,57E-01	4,56E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	1,76E-01	-1,37E-01
Ozone depletion Pot.	kg CFC-11e	9,20E-06	2,96E-09	3,96E-08	9,24E-06	2,03E-09	4,20E-11	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	8,39E-11	-1,69E-09
Acidification	kg SO2e	2,09E-02	4,21E-03	2,67E-03	2,78E-02	3,20E-04	1,90E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	4,24E-05	-1,00E-03
Eutrophication	kg PO43e	2,37E-02	4,83E-04	2,15E-03	2,63E-02	7,65E-05	4,24E-06	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	1,66E-04	-7,65E-05
POCP (“smog”)	kg C2H4e	1,52E-03	2,16E-04	1,41E-04	1,88E-03	3,04E-05	1,27E-06	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	3,75E-05	-5,32E-05
ADP-elements	kg Sbe	4,01E-05	4,25E-07	1,67E-06	4,22E-05	4,45E-07	7,38E-09	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	5,56E-09	-3,45E-08
ADP-fossil	MJ	9,35E+01	3,27E+00	1,45E+01	1,11E+02	2,34E+00	4,75E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	9,14E-02	-1,44E+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-GHG9)	kg CO2e	5,76E+00	2,55E-01	6,91E-01	6,70E+00	1,58E-01	4,59E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	1,23E-01	-1,38E-01

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.

SCENARIO DOCUMENTATION

MANUFACTURING ENERGY SCENARIO DOCUMENTATION

Scenario parameter	Value
Electricity data source and quality	Electricity, USA, Georgia, Consumption mix, 2022
Electricity CO2e / kWh	0,53
District heating data source and quality	NA
District heating CO2e / kWh	0

TRANSPORT SCENARIO DOCUMENTATION A4

Scenario parameter	Value
Fuel and vehicle type. Eg, electric truck, diesel powered truck	0,1
Average transport distance, km	1321
Capacity utilization (including empty return) %	100
Bulk density of transported products	1
Volume capacity utilization factor	1

INSTALLATION SCENARIO DOCUMENTATION A5

Scenario parameter	Value
Ancillary materials for installation (specified by material) / kg or other units as appropriate	0
Water use / m³	0
Other resource use / kg	0
Quantitative description of energy type (regional mix) and consumption during the installation process / kWh or MJ	0
Waste materials on the building site before waste processing, generated by the product's installation (specified by type) / kg	Disposal: 0,152
Output materials (specified by type) as result of waste processing at the building site e.g. collection for recycling, for energy recovery, disposal (specified by route) / kg	Disposal: 0,152
Direct emissions to ambient air, soil and water / kg	0,3142

END OF LIFE SCENARIO DOCUMENTATION

Scenario parameter	Value
Collection process – kg collected separately	0
Collection process – kg collected with mixed waste	0
Recovery process – kg for re-use	0
Recovery process – kg for recycling	0
Recovery process – kg for energy recovery	0
Disposal (total) – kg for final deposition	0,152
Scenario assumptions e.g. transportation	50 km for the packaging materials (A5) and 0 km for C4 - consumption of the product by water and UV.

THIRD-PARTY 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
01.07.2025

VERIFIED ISO 14025