EPD

DECLARACIONES AMBIENTALES DE PRODUCTO

Placas de Cemento

- TRANSPARENCIA AMBIENTAL
- EVALUACIÓN DEL CICLO DE VIDA
- COMPROMISO CON LA SOSTENIBILIDAD
- INFORMACIÓN VERIFICADA

DURLOCK® by etex

SUPERBOARD ESTRUCTURAL

Descripción de producto

Superboard® Estructural son placas planas de cemento fabricadas a través del proceso de autoclavado (alta presión, temperatura y humedad) que, sumado a una selección especial de materia prima (mezcla homogénea de cemento, refuerzos orgánicos y aditivos naturales que no incluyen fibras de amianto) obtiene un nivel único de estabilidad y resistencia mecánica.
Placas de cemento ideales para sistemas que requieren aporte estructural. Son altamente resistentes a la intemperie y al impacto, esto les brinda una gran ventaja para resolver aplicaciones al exterior.
Superboard® Estructural se puede instalar directamente sobre los perfiles en construcciones en Steel framing e inmediatamente sobre ella aplicar sistemas EIFS, sistemas de doble placas de cemento juntas a la vista, y Siding Cedral juntas a la vista, obteniendo una fachada definitiva. Se utiliza para aplicaciones exteriores con comportamiento estructural como cerramientos en Steel framing, marquesinas, medianeras, cajas de escaleras, entre otros usos.

Unidad funcional declarada

Los resultados a continuación están relacionados con 1 m² de placa Superboard® Estructural con un espesor de 10 mm. (unidad de masa = 14.41 kg/m²) con dimensiones estándar de 2400 mm. x 1200 mm. x 10 mm. y densidad de 1.270 kg/m³ y una vida útil de referencia de 60 años bajo condiciones normales de uso.

Operador de programa EPD	EPD HUB
Numero de registro EPD	HUB - 5812
Periodo de validez	21/03/2026 – 21/03/2031
Normas	EN 15804:2012+A2:2019/AC:2021 and ISO 14025
Origen del material	Argentina
Lugar de fabricación	Juan Manuel de Rosas 2720, San Justo CP 1754, Provincia de Buenos Aires, Argentina.

PLACAS DE CEMENTO Superboard PAREDES EXTERIORES

SUPERBOARD ESTRUCTURAL

Resultados clave de la evaluación

HUELLA DE CARBONO	POTENCIAL TOTAL DE CALENTAMIENTO GLOBAL (GWP) – incluyendo GWP fósil, biogénico y luluc GWP
Producto - De cuna a puerta [A1–A3]	3.99 kgCO2–Eq./m²
Carbono Embebido - De la Cuna a vertedero, incluidos A1-A5 +B1-B5 y Módulos C1–C4	6,35 kgCO2–Eq./m²

CONTENIDO DE CARBONO BIOGENICO DEL PRODUCTO EN LA PUERTA DE LA FABRICA	
Contenido de carbono biogénico en el producto, kg C	0,41
Contenido de carbono biogénico en el empaque, kg C	0,09

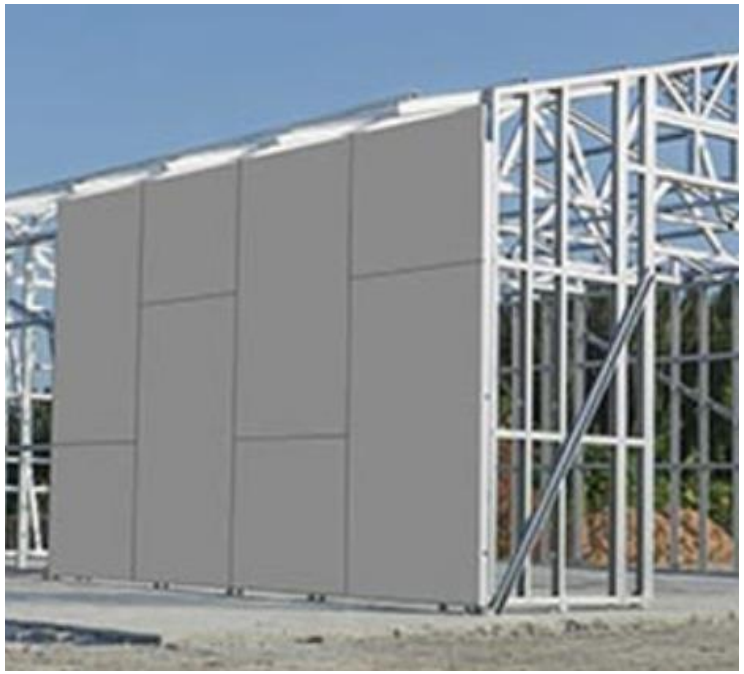
SUSTANCIAS, REACH – PREOCUPACION MUY ALTA	El producto no contiene ninguna sustancia REACH SVHC en cantidades superiores al 0,1 % (1000 ppm).

Ciclo de vida del producto

PRODUCTO			CONSTRUCCION		MANTENIMMIENTO Y USO DE EDIFICIOS - B							FIN DE LA VIDA UTIL DEL EDIFICIO - C			
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4
Materias primas	Transporte a la fábrica	Fabricación de productos	Transporte a la obra	Construcción / Obra	Uso	Mantenimiento	Reparación	Reemplazo	Remodelación	Uso operacional de energía	Uso operacional del agua	Demolición	Transporte de desechos	Reciclaje	Disposición de residuos
Carbono embebido												Carbono embebido			

EPD Hub

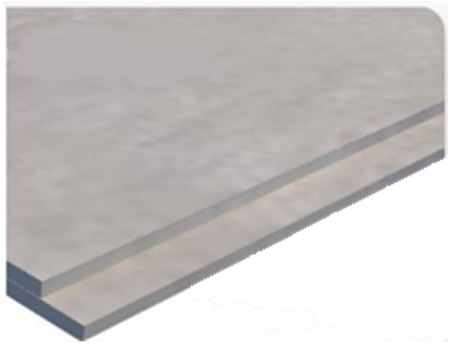
DURLOCK by etex



ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

Superboard Estructural 10mm
Durlock S.A. Etex Argentina



EPD HUB, EPD number HUB-5812
Published on 21.03.2026, last updated on 21.03.2026, valid until 21.03.2031

Life Cycle Assessment study has been performed in accordance with the requirements of EN 15804, EPD Hub PCR version 1.2 (24 Mar 2025) and JRCcharacterization factors EF 3.1.

Created with One Click LCA

GENERAL INFORMATION

MANUFACTURER

Manufacturer	Durlock S.A. Etex Argentina
Address	Av. Brig. Gral J.M. de Rosas 2720, San Justo CP 1754, Provincia de Buenos Aires, Argentina
Contact details	info@etexgroup.com
Website	https://durlock.com/

EPD STANDARDS, SCOPE AND VERIFICATION

Program operator	EPD Hub, hub@epdhub.com
Reference standard	EN 15804:2012+A2:2019/AC:2021 and ISO 14025
PCR	EPD Hub Core PCR version 1.2, EPD Hub GPI Version 1.3, EN 16757:2017 Product Category Rules for concrete and concrete elements
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	Tadiwos Zerihun Desta
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal verification ☑ External verification
EPD verifier	Magaly Gonzalez Vazquez as an authorized verifier for EPD Hub

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	Superboard Estructural 10 mm
Additional labels	-
Product reference	-
Place(s) of raw material origin	Mainly Argentina
Place of production	Juan Manuel de Rosas 2720, San Justo CP 1754, Provincia de Buenos Aires Argentina.
Place(s) of installation and use	Mainly Argentina
Period for data	calendar year 2023
Averaging in EPD	No grouping
Variation in GWP-fossil for A1-A3 (%)	Not applicable
GTIN (Global Trade Item Number)	-
NOBB (Norwegian Building Product Database)	-
A1-A3 Specific data (%)	22.7

ENVIRONMENTAL DATA SUMMARY

Declared unit	1m2
Declared unit mass	14.41 kg
Mass of packaging	0.19kg
GWP-fossil, A1-A3 ($kgCO_2e$)	5.79
GWP-total, A1-A3 ($kgCO_2e$)	3.99
Secondary material, inputs (%)	2.63
Secondary material, outputs (%)	0
Total energy use, A1-A3 (kWh)	24.5
Net freshwater use, A1-A3 (m^3)	0.02

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

Etex Argentina is a leading supplier of quality products for building boards made of fibre cement. Etex Argentina has an environment, health and safety management system which is ISO 14001 and ISO 45001 certified. The quality management system of the company and the production facility are certified according to ISO 9001. The energy management system of the company is certified according to ISO 50001. Etex Argentina is part of the global Etex Group of Companies, which operates across Europe, Africa, Middle East, Asia, and South America. The Etex group operates in more than 160 sites in 45 countries and employs over 13500 people worldwide.

PRODUCT DESCRIPTION

Superboard Estructural 10 mm is a fibre-cement board manufactured using the autoclave process (high pressure, temperature and humidity). The product is composed of cement, silica, cellulose fibres, and selected additives, and do not contain asbestos. The density of Superboard Estructural is 1,270 kg/m³ and provide high dimensional stability, mechanical performance, and excellent resistance against moisture and direct rain.

Superboard Estructural 10 mm is produced as a flat board and is suitable for both exterior applications, including walls and cladding assemblies.

More information about the products can be found at: https://durlock.com/

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	/	-
Minerals	93.7	Argentina
Fossil materials	/	-
Bio-based materials	6.3	Uruguay, Brazil, and Chile

The percentages shown in the product raw material main composition table represent the proportional mass share of each raw material category used per declared unit, calculated directly from the manufacturing site's 2023 production data, where all material inputs were recorded in kilograms and then normalised by dividing the mass of each material by the total mass of all raw materials and multiplying by 100 to obtain the percentage values; the mineral-based category, which totals 93.7%, includes Portland cement, silica sand, mineral fillers such as calcium carbonate, and other mineral additives—all sourced mainly from Argentina—reflecting the dominant contribution of inorganic materials to the fibre-cement matrix, while the bio-based category, representing 6.3%, consists of cellulose fibres and organic additives supplied from Uruguay, Brazil, and Chile; together, these categories sum to 100%, fulfilling the requirements of EN 15804 and the EPD Hub PCR that all raw materials be fully accounted for, and the categorisation into mineral and bio-based groups follows established PCR definitions, with the resulting percentages representing the aggregated mass shares of each group based on the individual materials they comprise, ensuring that the composition information is accurate and consistent within the EPD.

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	0.41
Biogenic carbon content in packaging, kg C	0.09

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1m² of Superboard Estructural 10 mm board
Mass per declared unit	14.41 kg
Functional unit	1 m² of Superboard Estructural 10mm fibre-cement board, with standard dimensions of 2400mm x 1200mm x 10mm and density 1,270 kg/m³, intended for use as interior or exterior wall, partition, or cladding assembly. The board provides flexural strength of 17MPa (average of strong and weak directions), moisture and rain resistance, and durability for a reference service life of 60 years under normal conditions of use.
Reference service life	60 years

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	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

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. In the context of A1, secondary material refers strictly reclaimed raw material inputs used in manufacturing (not energy, not fuel, not packaging reuse). The fuels used by machines, and handling of waste formed in the production processes at the manufacturing facilities are also included in this stage. The study also considers the material losses occurring during the manufacturing processes as well as energy losses during electricity transmission.

A market-based approach is used in modelling the electricity mix utilized in the factory. Regarding the energy used, natural gas and electricity were consumed during manufacturing. The electricity used in the manufacturing plant is 100% sourced from renewable wind power, demonstrated through valid contractual instruments (RECs) covering the full reporting year. The facility uses I-REC Certificates corresponding to 8,117.7 MWh of renewable electricity redeemed for the San Justo site for the period 2023-01-01 to 2023-12-31, issued by Pampa Energía S.A. under the Evident I-REC Standard. The certificates confirm that the renewable electricity is generated by the Parque Eólico de la Bahía (Argentina), an onshore wind installation commissioned in 2019, with a reported emission factor of 0 g CO_2/MWh.

The use of green energy is ensured throughout the validity period of this EPD, and the renewable electricity contractual instruments apply to the entire manufacturing facility, covering all products produced at the site, including Superboard Estructural 10mm. Therefore, no virtual allocation of renewable electricity to specific products has been performed. The same electricity mix is applied consistently to all products, in full compliance with the EPD Hub GPI v1.3, Annex I and EN 15804+A2 rules for electricity allocation in multi-product facilities.

Additional A1–A3 assumptions:
Production losses and manufacturing waste treatment: The manufacturing process for Superboard Estructural 10mm includes a 2.38% scrap rate, based on factory-specific 2023 data. Of this scrap, 47.7% is internally reused as secondary material within A3, 22.2% is externally recycled at a facility 25 km from the plant, and 30.1% is landfilled, with the disposal site located 32 km away. Standard lorry transport method is used to transport the waste to the external recycling and landfill sites. Waste treatment processes are modelled using EN 15804+A2-compliant datasets from One Click LCA/Ecoinvent.

Packaging and ancillary materials: Finished products are packaged using wooden pallets, plastic hoods, and plastic corner protectors. No additional packaging materials are used. The only ancillary material consumed during manufacturing is groundwater, which is used as process water in the slurry preparation and curing steps.

TRANSPORT AND INSTALLATION (A4-A5)

The impact of transportation in A4 covers the delivery of finished products from the manufacturing plant to distributors and construction sites. Transport is carried out by diesel-powered lorry, including direct exhaust emissions, upstream fuel production, and transport infrastructure impacts. The average transport distance in 2023 was 527km, based on factory shipment records across Argentina and other South American countries. If project-specific transport distances differ, results may be linearly scaled by multiplying the A4 impact values by the ratio of the actual distance to the reference 527km.
Superboard Estructural 10mm is commonly used in exterior wall systems, and less frequently in interior partitions, for both residential and commercial building types. These products may be installed on either wood- or steel-framed substructure, which are outside the scope of this EPD.
Energy consumption during installation (A5):
Installation requires mechanical fastening of the boards using an electric screwdriver. The energy consumed during installation is 0.0246 kWh of electricity per m², which is included in A5. No other installation energy inputs are required.

A5 waste assumptions and treatment percentages:
A 5% installation loss rate is applied for fibre-cement boards, representing offcuts and site trimming waste. Packaging waste—including wooden pallets, plastic hoods, and plastic corner protectors—is also generated at installation. In line with prevailing local waste management practices, 100% of A5 waste

(both installation offcuts and packaging components) is disposed of in landfill, as no recycling infrastructure for fibre-cement construction waste is currently available in the region. All waste treatment modelling follows EN 15804+A2-compliant datasets from One Click LCA/Ecoinvent.
Transport of A5 waste:
All installation waste requiring disposal is transported 30km by diesel lorry to municipal landfill facilities, reflecting common construction waste logistics in Argentina.
Additional installation considerations:
Joint gaps must be subtracted from the total wall area before applying the declared impacts.

PRODUCT USE AND MAINTENANCE (B1-B7)

The product has an estimated reference service life of 60 years, providing the product is installed as per Etex recommendations. In such cases, the product will last during its service life without any requirements for maintenance, repair, replacement, or refurbishment, given normal conditions of usage are guaranteed. The product will also not need any operational energy or operational water to fulfil its duty during its service life.
The positive impact on the environment during the use phase is the carbonation of the fibre cement board, where part of the carbon dioxide in the atmosphere is adsorbed over the lifetime of the board. Depending on the application, the degree of carbonation will vary. In this EPD, the carbonation extent was calculated by assuming outdoor use scenarios with rain exposure and the value is reported in the B1 module, i.e., -1.7 kg CO2e. For outdoor conditions with rain exposure the degree of carbonation is estimated to be 85%.

If the fibre cement products in this EPD are used in indoor conditions or outside conditions but without rain exposure, the degree of carbonation is estimated to be 40% and 75%, respectively. In such cases the reported absorbed carbon dioxide in module B1 would be replaced by -0.8 kg CO2e and -1.5 kg CO2e respectively.
The environmental effects of the product on air, soil, and water during the use phase have not been studied.

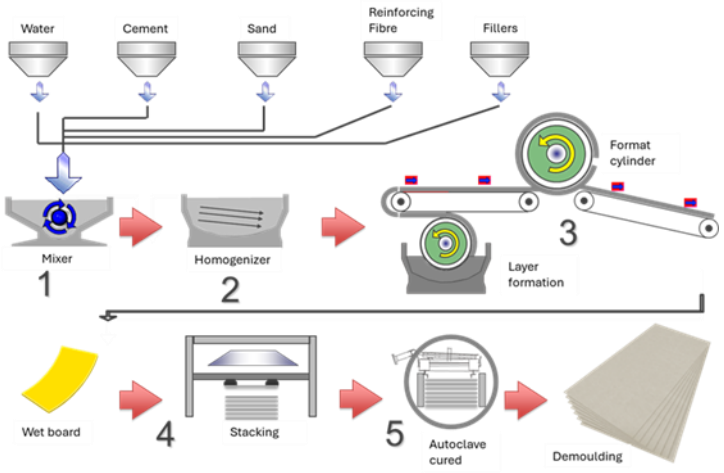
PRODUCT END OF LIFE (C1-C4, D)

The end-of-life scenario modelled in this EPD assumes that 100% of the product and all packaging materials (wooden pallets, plastic hoods and plastic corner protectors) are collected as mixed construction waste and disposed of via landfilling, which reflects current waste management practices in Argentina and other Latin American markets where the products are typically used. All waste is transported 30km by diesel lorry to the nearest municipal landfill, representing the average distance between demolition sites and landfill facilities in the region.
In C1 (deconstruction/demolition), the same energy consumption used in installation is applied to represent mechanical dismantling. C2 (transport) includes the 30km lorry transport of all waste materials to landfill. C3 (waste processing) assumes no pre-treatment or recovery, as neither fibre-cement nor the associated packaging is currently recycled in the regional context. C4 (disposal) models the landfilling of 100% of the waste stream.
Because no materials are recovered for reuse, recycling or energy recovery, no substituted processes apply in Module D. Consequently, Module D reports no benefits or loads, as required by EN 15804+A2 and the EPD Hub PCR for scenarios with 100% landfill disposal and without recovery of secondary materials. All environmental impacts related to packaging are fully accounted for within C2 (transport) and C4 (landfilling), and no Module D credits are generated. In addition, no adjustment is made for recycled content used in earlier life-cycle stages, since the modelled end-of-life scenario results in zero recovered material and therefore no possibility of double counting.

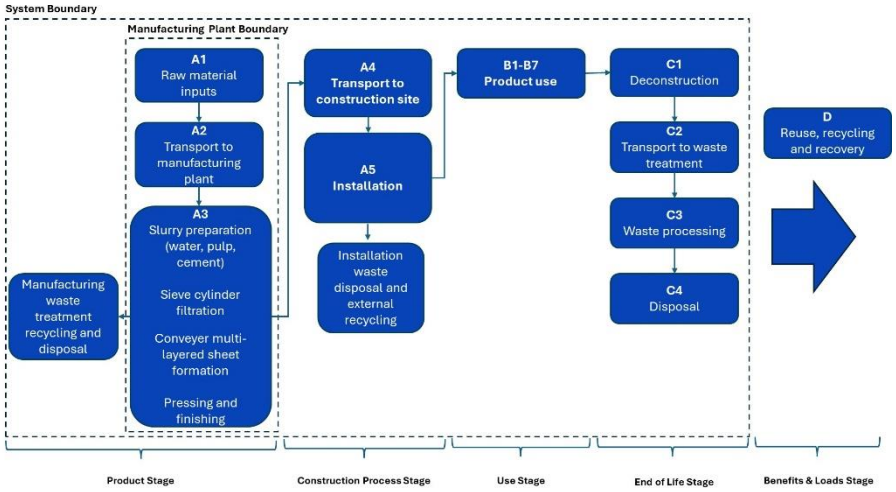
MANUFACTURING PROCESS

DESCRIPTION

The fibre cement manufacturing process begins with the precise preparation of raw materials: Portland cement, fine silica sand, and cellulose pulp are separately mixed with water in large stirrers to form dilute, aqueous slurries. These slurries are then fed onto the rotating sieve cylinders of the Hatschek machine, where a vacuum extracts water, depositing thin, successive layers of fibre cement onto a continuous felt blanket, progressively building the board's thickness. This wet mat is trimmed to width and consolidated through pre-pressing rollers to remove excess water and ensure layer adhesion before being cut to specific lengths. The wet boards are stacked on pallets with separators and transferred to a low-pressure autoclave, where they are cured with saturated steam, which accelerates cement hydration for superior strength and dimensional stability. Following curing, the boards undergo finishing, which typically includes surface sanding for a uniform texture and thickness, and are then dried in a chamber to achieve the precise moisture content before final inspection, packaging, and dispatch.



See below the included life cycle stages within the system boundary of this study:



LIFE-CYCLE ASSESSMENT

CUT-OFF CRITERIA

The assessment does not exclude any modules or processes which are stated mandatory in the consulted standard and the applied PCR. In addition, the assessment does not exclude any hazardous materials or substances, if present in any of the life cycle stages of the product. Consideration was given to all major raw material and energy consumption. All inputs and outputs of the unit processes, for which data is available, are included in the calculation. Unit processes that contribute more than 1% of the total mass or energy flow are included during the preparation of this EPD. The module specific total imbalance between input and output flows does not exceed 5% (mass and energy).

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 during the preparation of this document.

The following are also not considered:

- Packaging of the raw materials: neglected due to low quantity as main materials are delivered in bulk without packaging.

- Consumables used during production such as felt, lubricants and processing additives. In previous LCA studies the impacts of these consumables were found to have negligible effect on the environmental score.

VALIDATION OF DATA

The manufacturing, transport, and packaging related data collection was conducted using site-specific information for the year 2023, 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 in the 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/AC:2021 and JRC EF 3.1.

All default values provided in the applicable c-PCR EN 16757:2017 for fibre-cement products were reviewed for their relevance to this product. Only defaults that are fully applicable such as the installation loss rate, reference service life and carbonation approach were used. No deviations from these defaults were required.

Wherever factory-specific 2023 data were available, such as scrap rate, recycling rates, transport distances, energy and water consumption, these primary data replaced PCR default values in accordance with EN 15804+A2. The use of measured plant data ensures that the LCA reflects the actual manufacturing conditions of Superboard Estructural 10mm while remaining compliant with the c-PCR requirements.

ALLOCATION, ESTIMATES AND ASSUMPTIONS

Allocation follows EN 15804+A2 and the EPD Hub GPI v1.3 using the Cut-off allocation method in One Click LCA. Raw materials are recorded directly per square meter of fibre-cement board; therefore, no allocation was required for A1. For shared inputs in manufacturing, including electricity, natural gas, water, ancillary materials, and internal waste management, allocation is performed on a mass basis, reflecting each product’s share of the total annual production mass.

The allocation factor is calculated as the ratio between the annual mass of the product and the total annual production mass of all fibre-cement products. Shared inputs are distributed using the formula:

$$\text{Allocated value} = \frac{\text{Product annual mass}}{\text{Total annual mass}} \times \text{Shared input}$$

Internal scrap (offcuts, trimmings, sanding residues) reintroduced into production is treated as secondary material with no upstream burdens, in line with the Cut-off approach. Only reprocessing loads are included in A3. No co-products are generated; therefore, system expansion or economic allocation was not required. Packaging waste, installation losses, and end-of-life processes are quantified directly per declared unit and do not require allocation.

No biomass balance (BMB) allocation as defined in ISO 22095 have been used in this LCA or EPD. All material and energy inputs are modelled using actual physical flows recorded at the manufacturing site, and no virtual allocation approaches have been applied.

Data type	Allocation
Raw materials	No allocation
Packaging material	No allocation
Ancillary materials	Allocated by mass or volume
Manufacturing energy and waste	Allocated by mass or volume

PRODUCT & MANUFACTURING SITES GROUPING

Type of grouping	No grouping
Grouping method	Not applicable
Variation in GWP-fossil for A1-A3, %	Not applicable

This EPD is product and factory specific.

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'.

- Electricity transmission and distribution losses:
https://data.worldbank.org/indicator/EG.ELC.LOSS.ZS

- CO2 uptake by carbonation:

EN16757 Sustainability of construction works - Environmental product declarations - Product Category rules for concrete and concrete elements; annex BB

https://www.greenbooklive.com/filelibrary/EN_15804/BRE-PN514-EN15804-A2-PCR-V3.1.pdf

ENVIRONMENTAL IMPACT DATA

The estimated impact results are only relative statements which do not indicate the end points of the impact categories, exceeding threshold values, safety margins or risks.

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, EF 3.1

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	2,87E+00	6,93E-01	4,31E-01	3,99E+00	1,50E+00	9,86E-01	-1,69E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,15E-02	8,49E-02	0,00E+00	1,46E+00	0,00E+00
GWP – fossil	kg CO_2e	4,38E+00	6,92E-01	7,10E-01	5,79E+00	1,50E+00	6,65E-01	-1,69E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,11E-02	8,49E-02	0,00E+00	9,04E-02	0,00E+00
GWP – biogenic	kg CO_2e	-1,52E+00	1,21E-04	-2,80E-01	-1,80E+00	3,28E-04	3,20E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,19E-04	1,85E-05	0,00E+00	1,37E+00	0,00E+00
GWP – LULUC	kg CO_2e	2,00E-03	3,08E-04	2,93E-04	2,60E-03	6,65E-04	5,85E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,09E-04	3,76E-05	0,00E+00	5,17E-05	0,00E+00
Ozone depletion pot.	kg $CFC\text{-}_{11}$e	2,16E-08	9,68E-09	1,29E-08	4,42E-08	2,10E-08	3,70E-09	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,13E-10	1,19E-09	0,00E+00	2,62E-09	0,00E+00
Acidification potential	mol H^+e	1,63E-02	2,41E-03	1,59E-03	2,03E-02	5,01E-03	2,01E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,60E-05	2,83E-04	0,00E+00	6,41E-04	0,00E+00
EP-freshwater[2)]	kg Pe	5,46E-04	5,37E-05	4,62E-05	6,45E-04	1,17E-04	4,13E-05	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,34E-07	6,60E-06	0,00E+00	7,43E-06	0,00E+00
EP-marine	kg Ne	4,28E-03	7,69E-04	5,53E-04	5,60E-03	1,62E-03	5,45E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	5,06E-06	9,17E-05	0,00E+00	2,44E-04	0,00E+00
EP-terrestrial	mol Ne	4,72E-02	8,38E-03	5,75E-03	6,13E-02	1,77E-02	5,84E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	5,43E-05	9,97E-04	0,00E+00	2,67E-03	0,00E+00
POCP ("smog")[3)]	kg NMVOCe	1,33E-02	3,27E-03	2,54E-03	1,91E-02	6,97E-03	1,91E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,31E-05	3,94E-04	0,00E+00	9,56E-04	0,00E+00
ADP-minerals & metals[4)]	kg Sbe	2,12E-05	2,26E-06	1,32E-06	2,47E-05	4,93E-06	1,83E-05	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,40E-08	2,79E-07	0,00E+00	1,44E-07	0,00E+00
ADP-fossil resources	MJ	2,31E+01	9,70E+00	1,10E+01	4,37E+01	2,11E+01	6,47E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,04E-01	1,19E+00	0,00E+00	2,22E+00	0,00E+00
Water use[5)]	m^3e depr.	4,55E-01	4,49E-02	3,16E-01	8,16E-01	9,78E-02	6,33E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,29E-02	5,52E-03	0,00E+00	6,40E-03	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. EF 3.1

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	2,09E-07	5,47E-08	3,07E-08	2,94E-07	1,19E-07	2,22E-08	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,62E-10	6,73E-09	0,00E+00	1,46E-08	0,00E+00
Ionizing radiation[6)]	kBq U235e	4,80E-02	7,84E-03	7,32E-03	6,32E-02	1,71E-02	7,68E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,25E-03	9,63E-04	0,00E+00	1,39E-03	0,00E+00
Ecotoxicity (freshwater)	CTUe	8,18E+00	1,53E+00	1,16E+00	1,09E+01	3,33E+00	7,68E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,70E-02	1,88E-01	0,00E+00	1,86E-01	0,00E+00
Human toxicity, cancer	CTUh	1,19E-09	1,18E-10	5,17E-10	1,83E-09	2,55E-10	1,08E-10	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,94E-12	1,44E-11	0,00E+00	1,67E-11	0,00E+00
Human tox. non-cancer	CTUh	3,44E-08	6,05E-09	2,42E-09	4,29E-08	1,32E-08	2,97E-09	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,56E-11	7,45E-10	0,00E+00	3,83E-10	0,00E+00
SQP[7)]	-	1,71E+02	5,77E+00	4,16E+01	2,18E+02	1,26E+01	1,18E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-1,73E-03	7,11E-01	0,00E+00	4,37E+00	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	3,21E+01	1,33E-01	1,26E+01	4,48E+01	2,89E-01	2,84E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,75E-02	1,63E-02	0,00E+00	2,14E-02	0,00E+00
Renew. PER as material	MJ	1,13E+01	0,00E+00	2,70E+00	1,40E+01	0,00E+00	-2,80E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-1,12E+01	0,00E+00
Total use of renew. PER	MJ	4,34E+01	1,33E-01	1,53E+01	5,88E+01	2,89E-01	4,13E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,75E-02	1,63E-02	0,00E+00	-1,12E+01	0,00E+00
Non-re. PER as energy	MJ	2,31E+01	9,70E+00	1,07E+01	4,34E+01	2,11E+01	-5,43E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,04E-01	1,19E+00	0,00E+00	2,22E+00	0,00E+00
Non-re. PER as material	MJ	0,00E+00	0,00E+00	3,12E-01	3,12E-01	0,00E+00	-3,12E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of non-re. PER	MJ	2,31E+01	9,70E+00	1,10E+01	4,37E+01	2,11E+01	-5,74E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,04E-01	1,19E+00	0,00E+00	2,22E+00	0,00E+00
Secondary materials	kg	3,78E-01	4,37E-03	1,19E-02	3,95E-01	9,47E-03	3,33E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,52E-05	5,35E-04	0,00E+00	5,58E-04	0,00E+00
Renew. secondary fuels	MJ	1,50E-04	5,53E-05	7,40E-02	7,42E-02	1,21E-04	3,72E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	8,46E-08	6,81E-06	0,00E+00	1,15E-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	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m^3	1,31E-02	1,28E-03	7,35E-03	2,18E-02	2,79E-03	2,20E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,03E-04	1,58E-04	0,00E+00	2,31E-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	3,17E-01	1,69E-02	1,82E-02	3,52E-01	3,67E-02	2,01E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,49E-04	2,08E-03	0,00E+00	2,45E-03	0,00E+00
Non-hazardous waste	kg	2,40E+00	3,17E-01	1,52E+00	4,24E+00	6,89E-01	2,81E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,19E-03	3,89E-02	0,00E+00	5,60E-02	0,00E+00
Radioactive waste	kg	1,20E-05	1,92E-06	1,77E-06	1,57E-05	4,18E-06	7,99E-05	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,03E-06	2,36E-07	0,00E+00	3,40E-07	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	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	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	2,40E-01	2,40E-01	0,00E+00	1,20E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	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	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	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	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	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	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	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	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

ENVIRONMENTAL IMPACTS – EN 15804+A1. CML

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	4,39E+00	6,89E-01	7,07E-01	5,78E+00	1,49E+00	6,63E-01	-1,69E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,14E-02	8,44E-02	0,00E+00	8,96E-02	0,00E+00
Ozone depletion Pot.	kg $CFC_{-11}e$	1,87E-08	7,73E-09	1,03E-08	3,67E-08	1,68E-08	3,03E-09	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,67E-10	9,48E-10	0,00E+00	2,08E-09	0,00E+00
Acidification	kg SO_2e	1,24E-02	1,85E-03	1,21E-03	1,54E-02	3,83E-03	1,59E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,15E-05	2,17E-04	0,00E+00	4,74E-04	0,00E+00
Eutrophication	kg PO_4^3e	2,23E-03	4,37E-04	2,33E-03	5,00E-03	9,33E-04	3,70E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,93E-06	5,27E-05	0,00E+00	1,51E-04	0,00E+00
POCP (“smog”)	kg C_2H_4e	8,34E-04	1,62E-04	1,29E-04	1,12E-03	3,43E-04	1,55E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,71E-06	1,94E-05	0,00E+00	4,49E-05	0,00E+00
ADP-elements	kg Sbe	1,34E-05	2,21E-06	1,27E-06	1,69E-05	4,82E-06	1,79E-05	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,38E-08	2,72E-07	0,00E+00	1,41E-07	0,00E+00
ADP-fossil	MJ	2,23E+01	9,58E+00	1,09E+01	4,27E+01	2,08E+01	6,18E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,68E-01	1,18E+00	0,00E+00	2,20E+00	0,00E+00

ENVIRONMENTAL IMPACTS – FRENCH NATIONAL COMPLEMENTS

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
ADP-elements	kg Sbe	1,34E-05	2,21E-06	1,27E-06	1,69E-05	4,82E-06	1,18E-06	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,38E-08	2,72E-07	0,00E+00	1,41E-07	0,00E+00
Hazardous waste disposed	kg	3,17E-01	1,69E-02	1,82E-02	3,52E-01	3,67E-02	2,01E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,49E-04	2,08E-03	0,00E+00	2,45E-03	0,00E+00
Non-haz. waste disposed	kg	2,40E+00	3,17E-01	1,52E+00	4,24E+00	6,89E-01	2,77E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,19E-03	3,89E-02	0,00E+00	5,60E-02	0,00E+00
Air pollution	m^3	7,40E+02	1,39E+02	8,12E+01	9,60E+02	3,02E+02	6,82E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,15E+00	1,70E+01	0,00E+00	2,06E+01	0,00E+00
Water pollution	m^3	7,91E+00	4,40E+00	5,94E+00	1,82E+01	9,54E+00	1,62E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,29E-01	5,39E-01	0,00E+00	1,13E+00	0,00E+00

ADDITIONAL INDICATOR – GWP-GHG

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_2e	4,39E+00	6,93E-01	7,11E-01	5,79E+00	1,50E+00	6,65E-01	-1,69E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,14E-02	8,49E-02	0,00E+00	9,05E-02	0,00E+00

9) This indicator includes all greenhouse gases excluding biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. In addition. the characterisation factors for the flows – CH4 fossil. CH4 biogenic and Dinitrogen monoxide – were updated. This indicator is identical to the GWP-total of EN 15804:2012+A2:2019 except that the characterisation factor for biogenic CO2 is set to zero.

ENVIRONMENTAL IMPACTS – BEPALINGSMETODE. NETHERLANDS

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Shadow price	€	4,66E-01	8,43E-02	9,53E-02	6,45E-01	1,82E-01	4,49E-02	-8,43E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,35E-03	1,03E-02	0,00E+00	1,36E-02	0,00E+00
Terrestrial ecotoxicity	DCB eq	1,42E-02	2,44E-03	2,77E-03	1,94E-02	5,23E-03	1,32E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,08E-05	2,96E-04	0,00E+00	3,21E-04	0,00E+00
Seawater ecotoxicity	DCB eq	6,46E+02	1,03E+02	6,88E+01	8,17E+02	2,23E+02	5,71E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,01E+00	1,26E+01	0,00E+00	1,38E+01	0,00E+00
Freshwater ecotoxicity	DCB eq	2,61E-02	8,80E-03	5,56E-03	4,04E-02	1,91E-02	3,41E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,63E-04	1,08E-03	0,00E+00	1,10E-03	0,00E+00
Human ecotoxicity	DCB eq	1,19E+00	2,98E-01	2,87E-01	1,77E+00	6,43E-01	1,33E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	5,98E-03	3,63E-02	0,00E+00	4,68E-02	0,00E+00
EEE	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
ETE	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
ADP Fossil Fuels	kg Sbe	1,07E-02	4,61E-03	5,22E-03	2,06E-02	1,00E-02	3,06E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	8,07E-05	5,65E-04	0,00E+00	1,06E-03	0,00E+00

SCENARIO DOCUMENTATION
DATA SOURCES

Manufacturing energy scenario documentation

1. Diesel, burned in building machine, World, Ecoinvent, 0.10 kgCO2e/MJ
2. Electricity production, wind, 1-3MW turbine, onshore, Argentina, Ecoinvent, 0.0104 kgCO2e/kWh
3. Heat production, natural gas, at industrial furnace >100kW, World, Ecoinvent, 0.0753 kgCO2e/MJ

Transport scenario documentation - A4 (Transport resources)

1. Transport, freight, lorry 16-32 metric ton, EURO5, 527.0 km

Transport scenario documentation A4

Scenario parameter	Value
Capacity utilization (including empty return) %	100
Bulk density of transported products	1,46E+03
Volume capacity utilization factor	<1

Installation scenario documentation - A5 (Installation resources)

1. Market for electricity, low voltage, Ecoinvent, 0.0246 kWh
2. Galvanized steel screws, GaBi, 0.077 kg
3. Galvanized steel screws, GaBi, 0.077 kg

Installation scenario documentation - A5 (Installation waste)

1. Treatment of waste plastic plaster, inert material landfill, Ecoinvent, 0.72 kg
2. Treatment of waste plastic, mixture, sanitary landfill, Ecoinvent, 0.0032 kg
3. Wood chipping, industrial residual wood, stationary electric chipper, Ecoinvent, 0.194 kg

Use stages scenario documentation - B2 (Maintenance data source)

1. Secondary Material, Ecoinvent, 0.0 kg

Use stages scenario documentation - B2 Maintenance

Scenario information	Value
Maintenance process / Description or source where description can be found	Not required under normal conditions of use
Maintenance cycle / Number per RSL or year *(Not applicable if only B2 is declared)*	

Use stages scenario documentation - B3 (Repair data source)

1. Secondary Material, Ecoinvent, 0.0 kg

Use stages scenario documentation - B3 Repair

Scenario information	Value
Repair process / Description or source where description can be found	Not required under normal conditions of use
Inspection Process / Description or source where description can be found	Not required under normal conditions of use
Repair cycle / Number per RSL or year	

Use stages scenario documentation - B4 (Replacement data source)

1. Secondary Material, Ecoinvent, 0.0 kg

Use stages scenario documentation - B5 (Refurbishment data source)

1. Secondary Material, Ecoinvent, 0.0 kg

Use stages scenario documentation - B5 Refurbishment

Scenario information	Value
Refurbishment process / Description or source where description can be found	Not required under normal conditions of use
Refurbishment cycle / Number per RSL or year	
Further assumptions for scenario development, e.g., frequency and time period of use, number of occupants / Units as appropriate	Not required under normal conditions of use

Use stages scenario documentation - B6 (Energy data source)

1. Secondary Material, World, Ecoinvent, 0.0 kg

Use stages scenario documentation - B7 (Water data source)

1. Secondary Material, Ecoinvent, 0.0 kg

Use stages scenario documentation - B6-B7 Use of energy and use of water

Scenario information	Value
Ancillary materials specified by material / kg or units as appropriate	Not required under normal conditions of use
Characteristic performance, e.g., energy efficiency, emissions, variation of performance with capacity utilization, etc.	Not required under normal conditions of use
Further assumptions for scenario development, e.g., frequency and period of use, number of occupants	Not required under normal conditions of use

End-of-life scenario documentation - C1-C4 (Data source)

1. Market for electricity, low voltage, Ecoinvent, 0.0246 kWh
2. Treatment of inert waste, inert material landfill, Ecoinvent, 14.483 kg

Scenario information	Value
Scenario assumptions e.g. transportation	diesel powered truck, 30km

THIRD-PARTY VERIFICATION STATEMENT

EPD Hub declares that this EPD is verified in accordance with ISO 14025 by an independent, third-party verifier. The project report on the Life Cycle Assessment and the report(s) on features of environmental relevance are filed at EPD Hub. EPD Hub PCR and ECO Platform verification checklist are used.

EPD Hub is not able to identify any unjustified deviations from the PCR and EN 15804+A2 in the Environmental Product Declaration and its project report.

EPD Hub maintains its independence as a third-party body; it was not involved in the execution of the LCA or in the development of the declaration and has no conflicts of interest regarding this verification.

The company-specific data and upstream and downstream data have been examined as regards plausibility and consistency. The publisher is responsible for ensuring the factual integrity and legal compliance of this declaration.

The software used in creation of this LCA and EPD is verified by EPD Hub to conform to the procedural and methodological requirements outlined in ISO 14025:2010, ISO 14040/14044, EN 15804+A2, and EPD Hub Core Product Category Rules and General Program Instructions.

Verified tools

Tool verifier: Magaly Gonzalez Vazquez
Tool verification validity: 27 March 2025 - 26 March 2028

Magaly Gonzalez Vazquez as an authorized verifier for EPD Hub Limited
21.03.2026