# Environmental Product Declaration

In accordance with ISO 14025:2006 and EN 15804:2012+A2:2019/AC:2021 for:

## *Lightweight concrete*

from

## *TEJAMAX S.A.*

| | |
|---|---|
| Programme: | The International EPD System, www.environdec.com |
| Programme operator: | EPD International AB |
| Licensee: | Regional Hub Argentina |
| Type of EPD: | EPD of a single product from manufacturer/service provider |
| EPD registration number: | EPD-IES-0027574:004 |
| Version date: | 2026-08-01 |
| Validity date: | 2031-07-30 |
| | *An EPD may be updated or depublished if conditions change. To find the latest version of the EPD and to confirm its validity, see www.environdec.com* |



# GENERAL INFORMATION

| Programme Information | |
|---|---|
| **Programme:** | The International EPD® System |
| **Address:** | EPD International AB<br>Box 210 60<br>SE-100 31 Stockholm<br>Sweden |
| **Website:** | www.environdec.com |
| **E-mail:** | support@environdec.com |

| Product Category Rules (PCR) |
|---|
| **CEN standard EN 15804 serves as the Core Product Category Rules (PCR)** |
| ▪ **Product Category Rules (PCR): *"Construction products" Version 2.0.1*** |
| **PCR review was conducted by: The Technical Committee of the International EPD System. A full list of members is available on www.environdec.com. The review panel may be contacted via support@environdec.com. Members of the Technical Committee were requested to state any potential conflict of interest with the PCR Committee, and if there were conflicts of interest they were excused from the review.**<br>***Chairs of the PCR review*** **Rob Rouwette (chair), Noa Meron (co-chair).** |
| **c-PCR, if applicable: "Concrete and concrete elements" Version 1.0.0.** |

| Third-party Verification |
|---|
| Independent third-party verification of the declaration and data, according to ISO 14025:2006, via:<br><br>☒ **Individual EPD verification without a pre-verified LCA/EPD tool**<br>Third-party verifier: *Bárbara María Civit - Universidad Tecnológica Nacional Facultad Regional Mendoza*<br>Approved by: International EPD System |
| Procedure for follow-up of data during EPD validity involves third party verifier:<br><br>☒ Yes ☐ No<br><br>[Procedure for follow-up the validity of the EPD is at minimum required once a year with the aim of confirming whether the information in the EPD remains valid or if the EPD needs to be updated during its validity period. The follow-up can be organized entirely by the EPD owner or together with the original verifier via an agreement between the two parties. In both approaches, the EPD owner is responsible for the procedure being carried out. If a change that requires an update is identified, the EPD shall be re-verified by a verifier] |

The EPD owner has the sole ownership, liability, and responsibility for the EPD.

EPDs within the same product category but published in different EPD programmes, may not be comparable. For two EPDs to be comparable, they shall be based on the same PCR (including the same first-digit version number) or be based on fully aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical declared/functional units); have identical scope in terms of included life-cycle stages (unless the excluded life-cycle stage is demonstrated to be insignificant); apply identical impact assessment methods (including the same version of characterisation factors); and be valid at the time of comparison.
For further information about comparability, see EN 15804 and ISO 14025.

# INFORMATION ABOUT EPD OWNER

Owner of the EPD: TEJAMAX S.A.
Address: Amalia Figueredo de Pietra 333
Contact: Ing. Santiago Tabacchi
Address and contact information of the LCA practitioner commissioned by the EPD owner, if applicable: Eng. Leticia Tuninetti (ltuninetti@inti.gob.ar) and Eng. María Raquel Cavagnaro (mcavagnaro@inti.gob.ar) – INTI Córdoba
Description of the organisation: **Grupo Tejamax S.A.** is a company based in the province of Córdoba, Argentina, dedicated to the production of ready-mix concrete, precast, and prestressed elements. Founded in 2007, it has consolidated its presence in the region with plants located in Córdoba City, Río Primero, and Punilla, reaching an approximate production capacity of 14 000 m³ of ready-mix concrete per month. The company stands out for its strong commitment to sustainability, implementing practices such as water treatment and reuse, residual concrete recycling, dust-filtering systems, and the development of innovative projects for $CO_2$ capture in concrete. With this vision, Tejamax integrates technological innovation, product quality, and environmental responsibility, actively contributing to the sustainable development of the construction sector.
Product-related or management system-related certifications: Tejamax S.A. has been certified under ISO 9001 since 2020 and is currently in the process of obtaining ISO 14001 certification, which will be completed in Febraury 2026

# PRODUCT INFORMATION

Product name: Lightweight concrete
Product identification: LIB05L15
Visual representation of the product:



UN CPC code: 37510 hormigones y morteros no refractarios
Other codes for product classification: Lightweight concrete with expanded polystyrene (EPS) aggregates
Product description: Lightweight concrete with expanded polystyrene (EPS) aggregates is a low-density concrete designed to reduce structural weight while maintaining adequate mechanical strength and thermal insulation properties. The inclusion of EPS particles partially replaces natural aggregates, resulting in a lighter mix with improved workability and enhanced thermal performance. This product is suitable for non-structural and thermal insulation applications in building construction.

**Product identification:** Internally, within **Tejamax S.A.**, the product is coded as **LIB05L15** in order to specify the characteristics that are relevant to the product. The internal coding is described as follows:

- **LI**: indicates that the product is a **lightweight concrete**, with a lower density compared to conventional concrete.
- **B**: indicates that the product is **suitable for placement using a concrete pump**.
- **05**: maximum nominal size, expressed in millimetres (**5 mm**), of the aggregate and expanded polystyrene particles used in the concrete.
- **L**: type of cement used.
- **15**: slump at discharge measured in centimetres (**15 cm**), which is an indicator of the **workability/flowability** of the concrete.

**Product description:** This is a concrete **not suitable for use in reinforced concrete structures** due to its **low mechanical strength**. It is mainly used in **residential construction projects** as a **filling material over structural elements**, fulfilling a **thermal insulation function** while also allowing the definition of **slopes for drainage systems**.
It is also occasionally used for **subfloors**, provided that they are **not subjected to pedestrian traffic**.
**Brief description of the main manufacturing processes:** The manufacturing process consists of the **weighing and dosing** of the constituent materials aggregates, **expanded polystyrene**, cement, water and admixtures using **automated weighing systems**.
Once dosed, the materials are loaded into a **truck-mounted concrete mixer**, where mixing is carried out by a dedicated mixing unit installed on the vehicle. The truck then transports the concrete to the construction site, where the product is **discharged and placed**.
The manufacturing process itself is not technically complex; however, the main complexity lies in the **logistical organisation**, particularly in coordinating the trucks to arrive at the agreed location and time according to customer requirements.
**References to relevant websites:** For further information and explanatory materials: **www.grupotejamax.com**
**Description of material properties:** The main characteristic of this product is its **thermal insulation performance**. The density of the hardened concrete ranges between **1 850 and 1 1950 kg/m³**, and may vary due to the inherent variability of its constituent materials, meaning that the final product is not exactly identical in every production batch.
The key feature that differentiates this product from conventional concrete is the presence of **expanded polystyrene**, which replaces coarse aggregate. In addition, the concrete contains a **high air content, approximately 15%**, generated through the use of admixtures, which further contributes to the **lightweight nature** of the product.
The main component of the product is **cement**, which has the characteristic that, when it comes into contact with water, initiates an **exothermic chemical reaction**. As time progresses, this reaction leads to a process known as **setting**, during which strong crystalline bonds are formed between the aggregate and expanded polystyrene particles, resulting in a **rigid structure**.
The period during which the concrete remains in a **fluid state**, allowing its production, transport and placement, is approximately **2 to 3 hours**. After this time, the setting and hardening process described above begins.

Name and location of production sites: The locations plants is in Argentina country; Planta Norte y Planta Sur of Cordoba city, Planta Rio Primero of Rio Primero city and Planta Punilla of Tanti city.




References to any relevant websites for more information or explanatory materials, if applicable.
grupotejamax.com

# CONTENT DECLARATION

- The mass per declared unit: 1905.28 kg/m$^3$
- The mass and the content of distribution and/or consumer packaging: The product is delivered in bulk and does not include consumer packaging. The only packaging used during distribution is a PVC seal applied for pumping operations, with a mass of 0.0065 kg per m$^3$ of product.
- Information on the environmental and hazardous/toxic properties of a substances contained in the product: The product does not contain substances with hazardous or toxic properties in amounts that require declaration.
- Other information on substances with hazardous and toxic properties: No additional information on hazardous or toxic substances is applicable.
- The declared share of biogenic/recycled materials; The product contains 10% recycled materials (recycled aggregates and recycled water), based on the average annual production data. In addition, it includes 0.027% of biogenic $CO_2$.

Additional rules for the content declaration set by the c-PCR.

| Product content | Mass, kg | Post-consumer recycled material, mass-% of product | Biogenic material, mass-% of product | Biogenic material, kg C/product or declared unit |
|---|---|---|---|---|
| Fine sand | 660 | 0.0 | 0.0 | 0.0 |
| Coarse sand | 660 | 0.0 | 0.0 | 0.0 |
| Cement | 320 | 0.0 | 0.0 | 0.0 |
| Water | 120 | 0.0 | 0.0 | 0.0 |
| Recycled water | 80 | 0.0 | 0.0 | 0.0 |

| Product content | Mass, kg | Post-consumer recycled material, mass-% of product | Biogenic material, mass-% of product | Biogenic material, kg C/product or declared unit |
|---|---|---|---|---|
| Recycled PVC | 60 | 0.0 | 0.0 | 0.0 |
| Additive | 3.18 | 0.0 | 0.0 | 0.0 |
| Expanded polystyrene | 2 | 0.0 | 0.0 | 0.0 |
| Biogenic $CO_2$ | 0.1 | 0.0 | 0.014 | 0.027 |
| **TOTAL** | **1905.28** | **0.0** | **0.014** | **0.027** |

| Packaging materials | Mass, kg | Mass-% (versus the product) | Biogenic material, kg C/product or declared unit |
|---|---|---|---|
| - | - | - | - |

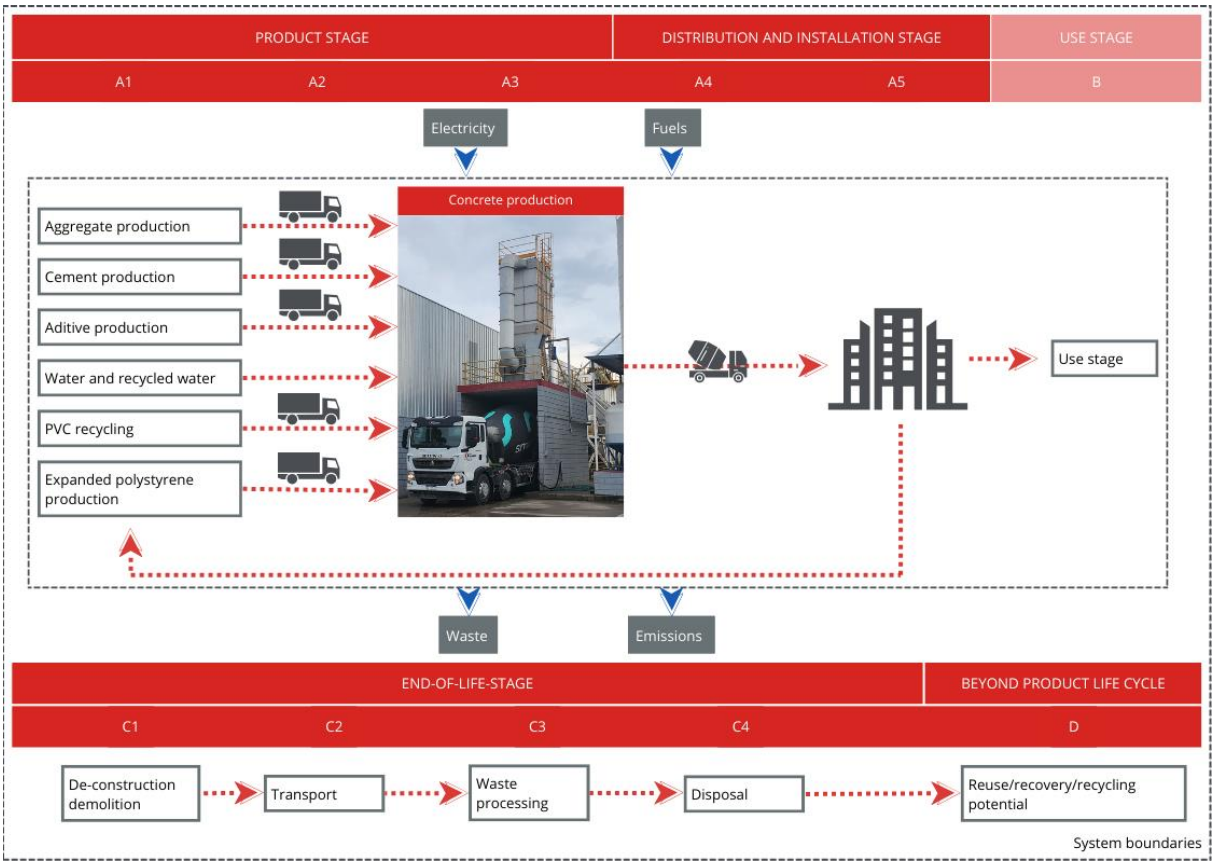
1 kg biogenic carbon in the product/packaging is equivalent to the uptake of 44/12 kg of $CO_2$.

| Hazardous substances from the candidate list of SVHC | EC No. | CAS No. | Mass-% per product or declared unit |
|---|---|---|---|
| - | - | - | - |

# LCA INFORMATION

Declared unit: One cubic meter ($m^3$) of Lightweight concrete
Reference service life: 20 years or more, depending on the intended use and the environmental conditions in which the product is installed.
Time representativeness: The study was carried out with data from the production process for the year 2024.
Geographical scope: Argentina
Database and LCA software used: SimaPro 9.6.0.1 // Ecoinvent v3.10.1
Description of system boundaries: ***cradle to gate with module C1-C4, module D and optional module A4-A5***

Process flow diagram:




Modules A1 – A3 Production

A1 Raw material supply: this module considers the extraction of raw materials and the associated energy consumption for their processing.

Since no local Life Cycle Assessment (LCA) data for cement compatible with the international EPD system are available, international secondary datasets were used. The main selection criteria was the cement composition, with emphasis on the clinker content, which determines the greatest environmental of this input.

A2 Transport: this module includes the transport of the different inputs to the concrete plant, including the transport of residual cement from the trucks from Tejamax to the processing plant, and from there back to the concrete plant.

A3 Production: this module accounts for the consumption of fuels, energy, and water at the plant, as well as waste generation. This process mainly consists of mixing the components that form each type of concrete.

Modules A4 – A5 Construction

A4 Transport: the products are delivered over an average distance of 16 km. The company also records fuel consumption per cubic meter ($m^3$) transported.

A5 Installation: between 40% and 50% of the concrete produced is pumped on site using the same truck. The energy consumption of the pump is recorded. For the pumped application of the product, a 6.5 g PVC seal is used.

Modules B1 – B7 Use

These modules were not included in the analysis.

Modules C1 – C4 End of Life

C1 Demolition: fuel consumption of 0.209 L/t was considered, according to machinery technical specifications.
C2 Waste transport: 50 km to the landfill were assumed.
C3 Waste processing: currently, no treatment is applied to these residues.
C4 Disposal: all material is disposed of in a sanitary landfill.

Module D Resource recovery

D Reuse, recovery, and/or recycling: this module was calculated considering that the product is not recycled at the end of its service life.

More information:

No environmental allocation was performed, because the processes under study don't generate others products or by-products that require this division.

The production lines are used exclusively for each type of concrete, which are produced separately. Any surplus material or small losses that may occur are reintroduced into the process and are therefore not considered byproducts.

The wastes generated at the plant, whether assimilable urban or hazardous, was allocated equally for all types of concrete produced by the company. Likewise, the effluent generated was allocated to equal parts per cubic meter of concrete produced.

The processes modelled with secondary datasets were used without modification for application in the life cycle analysis. In all cases, their allocation corresponds to 100%, which is consistent with the approach adopted.

Exclusions:

The impact from construction and manufacturing of infrastructure, machinery, buildings, vehicles, and common-use spaces, since, due to their long useful lives, their participation is insignificant relative to the volume of production handled.

Emissions generated by employee transportation.

Assumptions:

Since exact measurements are not available, it is assumed that all $CO_2$ injected into the concrete, remains contained in the material throughout its useful life.

Hazardous waste generated in the production process, like rags or other solids with paint, solvents or hydrocarbon residues, are assumed to be recycled or reused. According to the company, this is the priority treatment, and to a lesser extent, incineration or disposal in safety cells may be carried out.

Waste similar to urban consists mainly of samples and test tubes used in the company's own laboratory.

Fuel consumption in trucks that process and distribute the concrete, is information collected and reported by the company.

For recycled water, most of it comes from truck washing and is treated without chemicals and with low energy consumption, which is already accounted for in the company's total energy consumption; therefore, it was modeled without additional impacts.

For this category of environmental impact, "Water deprivation potential," the AWARE method characterization factor was applied to the cement production and tap water use profiles. The annual country-level aggregated CF for Argentina of 30.141 was used. (WULCA, 2023)

Lightweight concrete incorporates virgin polystyrene and PVC obtained from the stripping and separation of materials from end-of-life cables, a process through which aluminum and copper are recovered. The resulting PVC remains as a residue of this process and is valorized by being incorporated as an input into the product.

Regarding the type of electricity used, all production plants are supplied with electricity from the Argentine national grid. the Argentina low-voltage electricity grid consumption dataset available in the ecoinvent database was used to model electricity consumption. The greenhouse gas emissions associated with the generation and use of one kilowatt-hour (kWh) of low-voltage electricity are 0.441 kg $CO_2$ eq.

Modules declared, geographical scope, share of primary data (in GWP-GHG results) and data variation (in GWP-GHG results):

| | Product stage | | | Distribution/ installation stage | | Use stage | | | | | | | End-of-life stage | | | | Beyond product life cycle |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Raw material supply | Transport | Manufacturing | Transport | Construction installation | Use | Maintenance | Repair | Replacement | Refurbishment | Operational energy use | Operational water use | De-construction demolition | Transport | Waste processing | Disposal | Reuse-Recovery-Recycling-potential |
| **Module** | **A1** | **A2** | **A3** | **A4** | **A5** | **B1** | **B2** | **B3** | **B4** | **B5** | **B6** | **B7** | **C1** | **C2** | **C3** | **C4** | **D** |
| Modules declared | X | X | X | X | X | ND | ND | ND | ND | ND | ND | ND | X | X | X | X | X |
| Geography | AR | AR | AR | AR | AR | - | - | - | - | - | - | - | AR | AR | AR | AR | AR |
| Share of primary data | ~ 20% | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Variation – products | - | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Variation – sites | < 10% | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

Modules/processes/life-cycle stages declared shall be noted with “X”.
Modules/processes/life-cycle stages not declared shall be marked as “ND”.

Primary data were provided by the company during site visits to the plant and through the completion of data collection forms including fields for the declaration of energy consumption, fuels, inputs, water, and raw materials, as well as the generation of waste and effluents and the production of products and co-products. With regard to material quantities and mass balances, the company provided information obtained from software, which is used in several concrete production plants nationally and worldwide.

Likewise, the fuel consumption of the concrete mixer truck used to mix and transport the product to the place of use was obtained as primary data.

Secondary data related to the production systems of the raw materials composing the concrete were obtained from the Ecoinvent database, prioritising the selection of product profiles similar to those of Argentina, considering specific geographical origin conditions and comparable clinker content.

A cut-off criteria of 1% was applied. Material and energy flows contributing less than 1% to the total mass, energy demand, or environmental relevance were excluded from the system boundaries, provided that the sum of excluded flows does not exceed this threshold.

| Process | Source type | Source | Reference year | Data category | Primary data | Share of primary data, of GWP-GHG results for A1-A3 |
|---|---|---|---|---|---|---|
| Fuels used in manufacturing of product | Collected data | Industrial plant, Ecoinvent v3.10 | 2024 | Primary data, secondary data | 50.0% | 0.3% |
| Generation of electricity used in manufacturing of product | Database | Ecoinvent v3.10 | 2018 | Primary data, secondary data | 70.0% | 0.4% |
| Transport of supplier materials to manufacturing site | Collected data | Industrial plant, Ecoinvent v3.10 | 2024 | Primary data, secondary data | 60.0% | 6.0% |
| Production of supplier materials | Collected data | Industrial plant, Ecoinvent v3.10 | < 10 years | Primary data, secondary data | 15.0% | 13.3% |
| Waste management | Database | Ecoinvent v3.10 | 2018 | Primary data, secondary data | 50.0% | 0.1% |
| Total share of primary data, of GWP-GHG results for A1-A3 | | | | | | 20.1% |

The share of primary data is calculated based on GWP-GHG results. In is a simplified indicator for data quality that do not capture all relevant aspects of data quality. The indicator is not comparable across product categories.

Data quality was assessed according to the geographical and technological representativeness criteria set out in EN 15941, using a qualitative scale (Very good / Good / Fair / Poor / Very poor). The quality analysis was summarized considering the main inputs and outputs of each life cycle module.

| LCA Stage | Inputs/Outputs | Temporal representativeness | Geographical representativeness | Technical representativeness |
|---|---|---|---|---|
| A1 | Aggregate | Fair | Fair | Good |
| A1 | Cement | Good | Fair | Good |
| A1 | Admixture | Poor | Poor | Fair |
| A1 | Water | Fair | Fair | Good |
| A1 | CO2 biogenic | Good | Good | Good |
| A1 | Recycled PVC | Good | Good | Good |
| A1 | Expanded polystyrene production | Good | Poor | Good |
| A2 | Raw material transport | Good | Fair | Good |

| LCA Stage | Inputs/Outputs | Temporal representativeness | Geographical representativeness | Technical representativeness |
|---|---|---|---|---|
| A3 | Fuel consumption | Good | Fair | Good |
| A3 | Electricity | Good | Very good | Very good |
| A3 | Waste | Good | Fair | Fair |
| A4 | Distribution | Good | Good | Good |
| A5 | Installation | Good | Good | Good |
| C1 | Demolition | Good | Fair | Fair |
| C2 | Transport | Good | Fair | Good |
| C3 | Waste processing | Good | Fair | Good |
| C4 | Final disposal | Good | Fair | Fair |
| D | Benefits and loads beyond | Good | Good | Good |

For geographical representativeness, electricity was rated as "very good" quality, as it corresponds to primary information and an impact factor specific to Argentina. RoW profiles were rated as "Fair" and GLO profiles as "Poor", except for fuel profiles, which are less sensitive to this variability.

Regarding technological representativeness, most processes correspond to standardized industrial profiles, where the correspondence between the modeled and actual process was assessed, also taking into account the amount of information available for such comparison.

# ENVIRONMENTAL PERFORMANCE

## LCA results of the product - main environmental performance results

### Mandatory impact category indicators according to EN 15804

| Results per declared unit | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Indicator** | **Unit** | **A1-A3** | **A4** | **A5** | **C1** | **C2** | **C3** | **C4** | **D** |
| GWP-total | kg $CO_2$ eq. | 2.63E+02 | 1.01E+01 | 2.44E+00 | 1.43E+00 | 7.63E+00 | 0.00E+00 | 5.18E+00 | 0.00E+00 |
| GWP-fossil | kg $CO_2$ eq. | 2.60E+02 | 1.01E+01 | 2.44E+00 | 1.43E+00 | 7.63E+00 | 0.00E+00 | 5.17E+00 | 0.00E+00 |
| GWP-biogenic | kg $CO_2$ eq. | 2.85E+00 | 1.56E-03 | 4.50E-04 | 2.21E-04 | 8.89E-04 | 0.00E+00 | 1.75E-03 | 0.00E+00 |
| GWP-luluc | kg $CO_2$ eq. | 6.73E-02 | 3.46E-04 | 9.21E-05 | 4.92E-05 | 2.20E-04 | 0.00E+00 | 2.12E-04 | 0.00E+00 |
| ODP | kg CFC 11 eq. | 1.21E-06 | 1.58E-07 | 4.33E-08 | 2.25E-08 | 1.01E-07 | 0.00E+00 | 7.67E-08 | 0.00E+00 |
| AP | mol $H^+$ eq. | 7.49E-01 | 9.40E-02 | 2.27E-02 | 1.34E-02 | 2.00E-02 | 0.00E+00 | 4.70E-02 | 0.00E+00 |
| EP-freshwater | kg P eq. | 2.10E-02 | 8.21E-05 | 2.34E-05 | 1.17E-05 | 1.53E-04 | 0.00E+00 | 1.56E-04 | 0.00E+00 |
| EP-marine | kg N eq. | 2.32E-01 | 4.42E-02 | 1.07E-02 | 6.28E-03 | 7.24E-03 | 0.00E+00 | 2.14E-02 | 0.00E+00 |
| EP-terrestrial | mol N eq. | 2.57E+00 | 4.84E-01 | 1.17E-01 | 6.88E-02 | 7.90E-02 | 0.00E+00 | 2.34E-01 | 0.00E+00 |
| POCP | kg NMVOC eq. | 7.52E-01 | 1.44E-01 | 3.48E-02 | 2.05E-02 | 2.99E-02 | 0.00E+00 | 7.08E-02 | 0.00E+00 |
| ADP-minerals&metals* | kg Sb eq. | 4.13E-04 | 4.21E-07 | 1.08E-07 | 5.97E-08 | 4.46E-07 | 0.00E+00 | 2.05E-07 | 0.00E+00 |
| ADP-fossil* | MJ | 1.62E+03 | 1.32E+02 | 3.23E+01 | 1.88E+01 | 1.00E+02 | 0.00E+00 | 6.65E+01 | 0.00E+00 |
| WDP* | $m^3$ | 2.41E+01 | 1.04E-01 | 2.90E-02 | 1.48E-02 | 9.26E-02 | 0.00E+00 | 6.02E-02 | 0.00E+00 |
| Acronyms | GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption | | | | | | | | |

** Disclaimer: The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.*

*"The estimated impact results are only relative statements, which do not indicate the endpoints of the impact categories, exceeding threshold values, safety margins and/or risks."*

*"The results of the end-of-life stage (modules C1-C4) should be considered when using the results of the product stage (modules A1-A3)."*

## Additional mandatory and voluntary impact category indicators

| Results per declared unit | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Indicator** | **Unit** | **A1-A3** | **A4** | **A5** | **C1** | **C2** | **C3** | **C4** | **D** |
| GWP-GHG[1] | kg $CO_2$ eq. | 2.61E+02 | 1.01E+01 | 2.44E+00 | 1.43E+00 | 7.63E+00 | 0.00E+00 | 5.18E+00 | 0.00E+00 |

## Resource use indicators

| Results per declared unit | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Indicator** | **Unit** | **A1-A3** | **A4** | **A5** | **C1** | **C2** | **C3** | **C4** | **D** |
| PERE | MJ | 5.15E+01 | 2.91E-01 | 7.97E-02 | 4.14E-02 | 1.61E-01 | 0.00E+00 | 2.93E-01 | 0.00E+00 |
| PERM | 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 |
| PERT | MJ | 5.15E+01 | 2.91E-01 | 7.97E-02 | 4.14E-02 | 1.61E-01 | 0.00E+00 | 2.93E-01 | 0.00E+00 |
| PENRE | MJ | 1.62E+03 | 1.32E+02 | 3.23E+01 | 1.88E+01 | 1.00E+02 | 0.00E+00 | 6.65E+01 | 0.00E+00 |
| PENRM | MJ | 7.73E+01 | 0.00E+00 | 1.34E-01 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| PENRT | MJ | 1.69E+03 | 1.32E+02 | 3.24E+01 | 1.88E+01 | 1.00E+02 | 0.00E+00 | 6.65E+01 | 0.00E+00 |
| SM | kg | 1.40E+02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| RSF | 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 |
| NRSF | 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 |
| FW | $m^3$ | 8.76E-01 | 4.16E-03 | 1.10E-03 | 5.90E-04 | 3.38E-03 | 0.00E+00 | 2.30E-03 | 0.00E+00 |
| Acronyms | PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy re-sources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water | | | | | | | | |

[1] This indicator accounts for all greenhouse gases except biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. As such, the indicator is identical to GWP-total except that the CF for biogenic $CO_2$ is set to zero.

## Waste indicators

| Results per declared unit | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Indicator** | **Unit** | **A1-A3** | **A4** | **A5** | **C1** | **C2** | **C3** | **C4** | **D** |
| Hazardous waste disposed | kg | 0.06 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Non-hazardous waste disposed | kg | 0.80 | 0.00 | 0.01 | 0.00 | 0.00 | 1905.28 | 0.00 | 0.00 |
| Radioactive waste disposed | kg | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## Output flow indicators

| Results per declared unit | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Indicator** | **Unit** | **A1-A3** | **A4** | **A5** | **C1** | **C2** | **C3** | **C4** | **D** |
| Components for re-use | kg | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Material for recycling | kg | 0.00 | 0.00 | 38.11 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Materials for energy recovery | kg | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Exported energy, electricity | MJ | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Exported energy, thermal | MJ | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

# ABBREVIATIONS

All abbreviations used in the EPD must be added. Please add all the abbreviations used.

| Abbreviation | Definition |
|---|---|
| **General Abbreviations** | |
| EN | European Norm (Standard) |
| EF | Environmental Footprint |
| GPI | General Programme Instructions |
| ISO | International Organization for Standardization |
| CEN | European Committee for Standardization |
| CLC | Co-location centre |
| CPC | Central product classification |
| GHS | Globally harmonized system of classification and labelling of chemicals |
| GRI | Global Reporting Initiative |
| SVHC | Substances of Very High Concern |
| ND | Not Declared |

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# VERSION HISTORY

**Original Version of the EPD, 2026-08-01**

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