



CLIPSO®

ENVIRONMENTAL PRODUCT DECLARATION

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



CLIPSO 495 D AB + LA10

Programme: The International EPD® System,
www.environdec.com

Programme operator: EPD International AB

Version: 1.0

Registration number: EPD-IES-0008229

EPD in accordance with ISO 14025:2006, ISO 21930:2017
and EN 15804:2012+A2:2019/AC:2021

Date of publication (issue): 2025-03-05

Date of validity: 2030-03-05

An EPD should provide current information and may be updated if
conditions change. The stated validity is therefore subject to the
continued registration and publication at www.environdec.com.

 **EPD**®
THE INTERNATIONAL EPD® SYSTEM



The environmental impacts of this product
have been assessed over its whole life cycle.
Its Environmental Product Declaration has
been verified by an independent third party.



CONTENT

- Summary Environmental product declaration
- General information
- Product description
- LCA calculation information
- Life Cycle stages
- LCA results
 - Environmental impacts
 - Resource use
 - Waste categories
 - Output flows
 - Additional indicators from EN 15804
- Appendix
- References
- Contact information



GENERAL INFORMATION

Manufacturer: Saint-Gobain Ecophon AB Clipso, 5 rue de l'Eglise
68800 Vieux-Thann, France

Production plant: Saint-Amarin & Vieux-Thann, France

Description of organization: CLIPSO designs and manufactures technical textiles based on polyurethane-coated polyester knitwear.

Framework: The LCA is based on 2023 production data for one site.

Geographical scope: Global

Program used: The International EPD® System.

PCR identification: PCR 2019:14 Construction products (EN 15804+A2),
version 1.3.4

UN CPC CODE: 421

Owner of the declaration: Saint-Gobain Ecophon AB

Product name: Clipso™ 495 D AB + LA10

This EPD covers information modules A1 to C4 (cradle to grave) + module D as defined in EN 15804:2012 + A2:2019

EPD® prepared by: Markus Beckman, Saint-Gobain Ecophon AB

Geographical scope of the EPD®: Global

The intended use of this EPD is for B2B communication.

EPD® registration number: EPD-IES-0008229

Declaration issued: 2025-03-05, **valid until:** 2030-03-05

Demonstration of verification: an independent verification of the declaration was made, according to EN ISO 14025:2010. This verification was external and conducted by a third party, based on the PCR mentioned above (see information below).

| | |
|------------------|--|
| Programme | The international EPD© System |
| Adress: | EPD© International AB Box 210 60 SE-100 31 Stockholm Sweden |
| Website: | www.environdec.com |
| E-mail: | info@environdec.com |

| |
|---|
| CEN standard EN 15804:2012 + A2:2019 serves as the Core Product Category Rules (PCR) |
| Product category rules (PCR): PCR 2019:14 Construction products version 1.3.4 |
| PCR review was conducted by: El Comité Técnico del Sistema Internacional EPD©. See www.environdec.com for a list of members Review chair: Claudia A. Peña, University of Concepción, Chile. The review panel may be contacted via the Secretariat www.environdec.com/contact |
| Independent third-party verification of the declaration and data, according to ISO 14025:2006: <input type="checkbox"/> EPD process certification <input checked="" type="checkbox"/> EPD verification by individual verifier |
| Third party verifier : Marcus Wendin Miljögiraff AB Tlf +46733248185 marcus@miljogiraff.se In case of recognized individual verifiers: Approved by: The International EPD© System |
| Procedure for follow-up of data during EPD validity involves third part verifier: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |

The EPD owner has the sole ownership, liability, and responsibility for the EPD. EPDs within the same product category but registered in different EPD programmes, or not compliant with EN 15804, may not be comparable. For two EPDs to be comparable, they must be based on the same PCR (including the same 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 equivalent system boundaries and descriptions of data; apply equivalent data quality requirements, methods of data collection, and allocation methods; apply identical cut-off rules and impact assessment methods (including the same version of characterisation factors); have equivalent content declarations; and be valid at the time of comparison. For further information about comparability, see EN 15804 and ISO 14025.

PRODUCT DESCRIPTION

Product description and description of use:

This Environmental Product Declaration (EPD) describes the environmental impact of 1 m² of 495 D AB + LA10 (technical textile) with the intended use to increase sound absorption in a room to create a better indoor environment.

CLIPSO designs and manufactures technical textiles based on polyurethane-coated polyester knitwear. The raw materials used for production are all from the European Union. The products obtained are in the form of screened coatings available up to 5.10m in width.

Thanks to its perforated structure, the coating contributes to the absorption of ambient noise and allows acoustic correction to be carried out inside the premises. The coating is equally suitable for installation on walls or ceilings and can be printed.

Use: sound absorption.

The lifespan of a CLIPSO product is similar to that of a building, as long as the component is part of it (often set at 50 years).

Description of the main product components and materials for 1 m² of 495 D AB + LA10:

| Parameter | Value | Post-consumer recycled content |
|----------------------|----------------------------------|--------------------------------|
| Product thickness | 10,4 mm | - |
| Product weight | <<ProdWeight>> kg/m ² | 0%* |
| Polyester textile | 26% | 0%* |
| Polyurethane coating | 16% | 0%* |
| PET absorbent | 57% | 0%* |

The total weight of the product is calculated to 0,61 kg / m². The product does not contain any biogenic carbon.

All raw materials contributing more than 5% to any environmental impact are listed in the table above. At the date of issue of this environmental declaration, there is no substance of very high concern (SVHC) in concentration above 0.01% by weight.

| | Biogenic carbon [kgC/lm] |
|-----------|--------------------------|
| Packaging | 0,02599 |
| Product | 0 |

1 kg biogenic carbon is equivalent to 44/12 kg of CO₂.

The stored biogenic carbon in the packaging material is as GWP indicator balanced out A5 and zero over the life cycle. The same approach is used for energy stored in the packaging materials.

If there in future occur production changes that generate an increased impact larger than 10% the EPD will be updated and re-verified.

LCA CALCULATION INFORMATION

| | |
|--|---|
| Declared unit | 1m ² of technical knitted fabric with or without a PET absorbent, depending on products specification. Accessories like profiles and fasteners are excluded. |
| System boundaries | Cradle to grave: A1-A3, A4-A5, B, C1-C4 and D This EPD covers the environmental impact of technical textiles. |
| Expected product lifetime | 50 years |
| Cut-off rules | <p>The use of cut-off criterion on mass inputs and primary energy at the unit process level (1%) and at the information module level (5%).</p> <p>Flows related to human activities such as employee transport are excluded.</p> <p>Biogenic carbon storage is accounted for in the LCA result related to GWP and included in the “Use of renewable primary energy used as raw materials”</p> <p>All energy stored in “Use of renewable primary energy used as raw materials” is balanced out to zero over the whole life cycle (A to C).</p> <p>The construction of plants, production of machines and transportation systems are excluded since the related flows are supposed to be negligible compared to the production of the building product when compared at these systems lifetime level.</p> |
| Allocations | Allocation criteria are based on mass in the manufacturing process A3. |
| Geographical coverage and time period | A1: Global A2: Global A3: France A4-C4: Global (2023) |

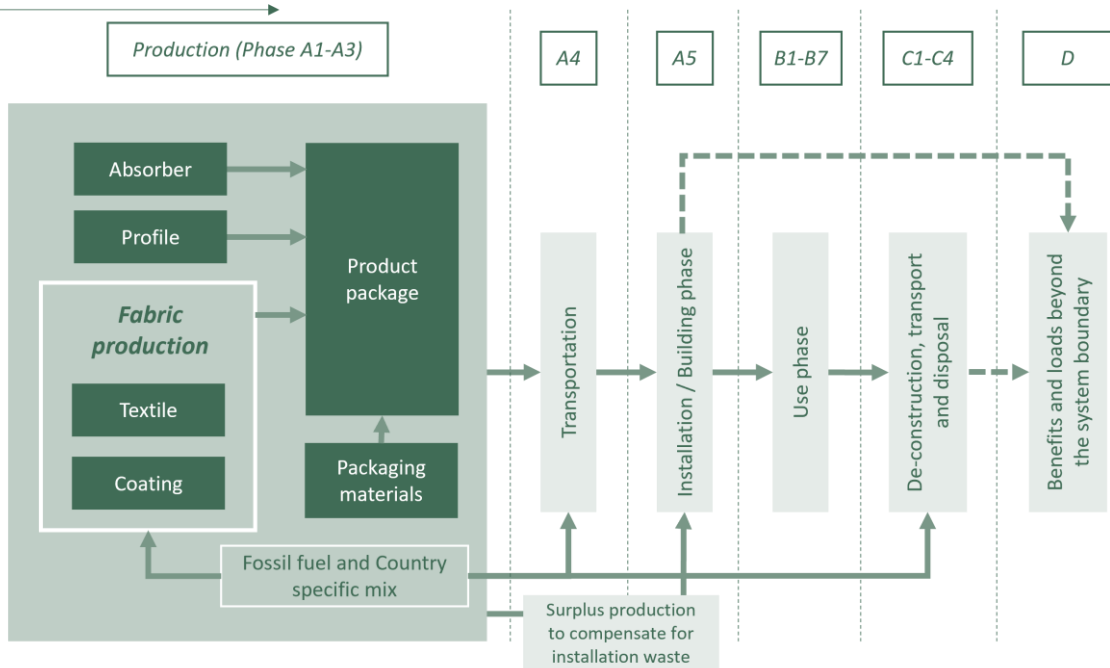
According to EN 15804, EPD of construction products might not be comparable if they do not comply with this standard. According to ISO 21930, EPD's might not be comparable if they are from different EPD administrating schemes.

| | Product phase | | | Construction process phase | | Use phase | | | | | | | End of life phase | | | | Resource recovery phase |
|------------------|-------------------------|-------------------------------|---------------|--------------------------------|------------------------------|-----------|-------------|--------|-------------|---------------|------------------------|-----------------------|----------------------------|-------------------------------|------------------|----------|------------------------------------|
| | Raw material and supply | Transport to the manufacturer | Manufacturing | Transport to the building site | Installation in the building | Use | Maintenance | Repair | Replacement | Refurbishment | Operational energy use | Operational water use | De-construction demolition | Transport to waste processing | 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 | x | X | X | X | X | X | X | X | X | X | X | X |
| Geography | GLO | GLO | FR | GLO | GLO | | | | | | | | GLO | GLO | GLO | GLO | GLO |
| Specific data | 67% | | | - | | | | | | | | | | | | | - |
| Variation sites | 0% | | | - | | | | | | | | | | | | | - |

LIFE CYCLE STAGES

Flow diagram of the Life Cycle

Life cycle stages



Product stage, A1-A3

Description of the stage:

The stretched canvas production stage is divided into three modules: A1, supply of raw materials; A2, transportation and A3, manufacturing.

The aggregation of modules A1, A2 and A3 is a possibility given by standard EN 15 804+A2. This rule is applied to this EPD.

A1 Raw material supply

This module takes into account the extraction and processing of all raw materials and energy which occur upstream to the studied manufacturing process.

In particular, it covers the supply of raw materials for the manufacture of knitting and paste for coating.

A2 Transport to the manufacturer

Raw materials are transported to the manufacturing site. The modelling includes, for each of the raw materials of road transport (average values).

A3 Manufacturing

The technical textiles are produced on a continuously moving line, starting with mixing the necessary components into the paste that comprise the coating. The latter is then applied to the knit to give it the desired properties. After drying, the products are packaged on rolls or cut to the desired size and then packaged.

Manufacturing includes production-related processes including coating, drying, cutting, packaging and internal transport. The manufacturing process includes combustion data for refined products, such as natural gas, gasoline and diesel. All the electricity used in the manufacturing site is the residual mix of the French grid. The impact of it is of 0,041 kgCO₂/kWh (calculated according to the indicator GWP-GHG).

The packaging flows linked to the production process are included in the manufacturing module: wooden pallets, cardboard and PE film. Apart from the production of packaging material, the delivery and transport of packaging materials are also included in the LCA model. They are reported and allocated in the module where the packages are used. Data on packaging waste generated during this step is recorded. 100% of the waste generated in the production cycle is collected and recycled or incinerated with energy recovery in relation to the material and its quality.

| Location | Electricity emission factor [kgCO ₂ eq./kWh] |
|-------------------|---|
| Vieux-Thann (FR) | 0,05 [kg CO ₂ eq./kWh] |
| Saint-Amarin (FR) | 0,05 [kg CO ₂ eq./kWh] |

Construction process stage, A4-A5

The construction process is divided into 2 modules: A4 "Transport to the building site" and A5 "Installation in the building".

Description of scenarios and additional technical information:

A4 Transport to the building site

This module includes transport from the production gate to the building site. Transport is calculated based on a scenario with the parameters described in the following table.

| Parameter | Value |
|--|---|
| Fuel type, consumption of fuel and vehicle or vehicle type used for transport | Average truck trailer with a 24t payload, diesel consumption 38 liters for 100 km |
| Distance | 473 km |
| Capacity utilisation (including empty returns) | 100% of the capacity in volume 30% of empty returns |
| Bulk density of transported products (if available) | 96,6g/ m3 (Clipso fabric alone) |
| Volume capacity utilisation factor (if available) | 0,45 |

The transport distance has been calculated from a European average transport from Ecophon Clipso manufacturing in Vieux-Thann in 2023 from the parameters in the table above.

A5:1 Installation in the building

This module includes waste of products during the implementation, i.e. the additional production processes to compensate the loss and the waste processing which occur in this stage.

Scenarios used for quantity of product wastage and waste processing are:

| Parameter | Value |
|--|--|
| Waste of materials on the building site before waste processing, generated by the product's installation | 10 % of the stretched canvas 16g polyethylene (emballage) 12 g pallet (emballage) 49 g cardboard (emballage) |
| Output materials (specified by type) as results of waste processing at the building site e.g. of collection for recycling, for energy recovering, disposal | <p>Packaging waste is collected and mostly recycled for polyethylene (79%). It is incinerated (55.6%) and the rest (44.4%) is landfilled.</p> <p>The recovery rate for the wooden pallets is 87%, (With 7% material recovery and 80 % energy recovery). The rest is incinerated.</p> <p>The cardboard recovery rate consists of 93% material recovery, 3% is landfilled and the rest is incinerated.</p> <p>The stretched canvas waste is incinerated for 46% and landfilled for 54%</p> |

A5:2 Energy usage

As a general figure the time to install 1 m² ceiling is considered to be 20 minutes. During this time the installer is considered to use handheld appliances for about 5% of this time which in this case results in 1 minute. A handheld device such as a cordless screwdriver is considered to have a power of 0.7 kilowatt. Therefore, in one minute it will consume a total energy of $0.7 \cdot 60 = 4.2$ kilojoule = 0.0042 MJ, per m² ceiling. In this context it is a negligible contribution and will not be part of the LCA calculation (lower than 0.1% of the total energy consumption).

Use stage (excluding potential savings), B1-B7

Description of the stage:

The use stage is divided into 7 modules, B1 "Use", B2 "Maintenance", B3 "Repair", B4 "Replacement", B5 "Refurbishment", B6 "Operational energy use", B7 "Operational water use"

Description of scenarios and additional technical information:

Once installation is complete, no actions or technical operations are required during the use stages until the end of life stage. Therefore, acoustic ceiling panels have no impact (excluding potential energy savings) on this stage.

End-of-life stage C1-C4

Description of the stage:

The end-of life stage is divided into 4 modules; C1 "De-construction, demolition", C2 "Transport to waste processing", C3 "Waste processing for reuse, recovery and/or recycling", C4 "Disposal".

Description of scenarios and additional technical information:

C1, De-construction, demolition

The dismantling of acoustic ceiling panels takes part during renovation or demolition of the building. In this case, the environmental impact is assumed to be very small and can be neglected.

C2, Transport to waste processing

The model for transportation (see A4, Transportation to the building site) is applied.

C3, Waste processing for reuse, recovery and/or recycling

C4, Disposal

The remaining stretched canvas and absorber are considered to be landfilled (54%) and incinerated (46%), with energy recovery. With a thermal efficiency of <60%.

| Parameter | Value/description |
|--|---|
| Collection process specified by type | 0,61 kg of stretch fabric and absorber (collected with mixed construction waste) |
| Recovery system specified by type | Energy recovery 0,2806 kg |
| Disposal specified by type | Landfill, 0,3294 kg Incineration 0,2806 kg |
| Assumptions for scenario development (e.g. transportation) | Average truck trailer with a 24t payload, diesel consumption 31.7 litres for 100 km 50 km (distance to landfill) |

Reuse/recovery/recycling potential, D

Clipso products 495D AB are assumed to be energy recycled after the initial lifecycle. This displaces use of other energy carriers such as natural gas or electricity. Equal assumptions are made when it comes to packaging materials such as plastic, cardboard and pallets. Clipso 495D AB, plastic, cardboard and pallets are all recycled to different lengths which causes displacement of energy and virgin materials such as plastic, pulp and wood from the life cycle model.

The following table describes the steps and/or incoming outgoing taken into account:

| Materials valued as outgoing of the system borders | Module of origin | Recycling process beyond system boundaries | Materials / Energy saved | 495 D AB [kg/DU] |
|--|------------------|---|--|------------------|
| Transparent polyethylene films (mostly LDPE) | A5 | Regeneration of PE granules by sorting, casing and pelletizing | PE granules | 0,013 |
| Wood pallet | A5 | Preparation of wood cuttings for reintegration into the manufacture of wood products (particle board types) | Shredded pallets for panels | 0,0008 |
| | A5 | Energy recovery in biomass boiler | Crushed pallets for energy, replacing natural gas on the energy grid | 0,0096 |
| | A5 | Incineration with energy recovery, electrical + thermal (23%) | Crushed pallets for energy, replacing natural gas on the energy grid | 0,0016 |
| Cardboard | A5 | Regeneration of paper pulps by chemical means | Pulp (chemical route) | 0,045 |
| | A5 | Incineration with energy recovery, electrical + thermal (23%) | Crushed paper for energy replacing natural gas on the energy grid | 0,002 |
| Technical textile | C4 | Incineration with energy recovery, electrical + thermal (23%) | Polyethylene for energy replacing natural gas on the energy grid | 0,2806 |

LCA RESULTS

LCA model, aggregation of data and environmental impact are calculated through the GaBi Professional software. Secondary data is mainly taken from Ecoinvent 3.7.1 and GaBi Sphera 2023.1 datasets.

Raw materials, energy consumption as well as transport distances are all specific data that have all been taken directly from the manufacturing plants of Saint-Gobain Ecophon in 2023. The ratio of collected specific data is compared to the generic datasets used as described by the formula below.

Modules declared, geographical scope, share of specific data, and variation between sites (last two percentages given in GWP indicator) are stated in the following table. For stages A1-A3 (largest contribution to total GWP), the raw materials are modelled with very low amount of generic data as – 67% of the GWP comes from specific data. Specific data is calculated as:

$$1 - \frac{Generic}{(Specific + Generic)}$$

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 use of the results of modules A1-A3 without considering the results of module C is discouraged.

Summary of the LCA results are detailed in the tables below.

All results in the EPD are written in logarithmic base of ten. Reading example: 5.2E -03 = $5.2 \cdot 10^{-3}$ = 0,0052.

ENVIRONMENTAL IMPACT











The EPD use the EN 15804 reference package version 'EN 15804 EF 3.1'.

| Environmental impacts | | | | | | | | |
|---|---------------|----------------------------|----------|-------------------|----------|----------|----------|----------------------------|
| Parameters | Product stage | Construction process stage | | End-of-life stage | | | | Reuse, recovery, recycling |
| | A1-A3 | A4 | A5 | C1 | C2 | C3 | C4 | D |
|  Climate change - total [kg CO2 eq.] | 3,07E+00 | 3,43E-02 | 4,83E-01 | 0,00E+00 | 3,16E-03 | 0,00E+00 | 5,74E-01 | -1,92E-01 |
|  Climate change - fossil [kg CO2 eq.] | 3,00E+00 | 3,27E-02 | 3,18E-01 | 0,00E+00 | 3,01E-03 | 0,00E+00 | 2,58E-01 | -1,92E-01 |
|  Climate change - biogenic [kg CO2 eq.] | 6,35E-02 | 1,59E-03 | 1,65E-01 | 0,00E+00 | 1,46E-04 | 0,00E+00 | 3,16E-01 | 0,00E+00 |
|  Climate change - land use and land use change [kg CO2 eq.] | 2,37E-03 | 1,17E-06 | 2,38E-04 | 0,00E+00 | 1,08E-07 | 0,00E+00 | 1,43E-05 | 3,94E-05 |
|  Ozone depletion [kg CFC 11 eq.] | 5,80E-06 | 4,59E-15 | 5,80E-07 | 0,00E+00 | 4,22E-16 | 0,00E+00 | 1,60E-13 | 9,84E-10 |
|  Acidification [Mole of H+ eq.] | 6,17E+06 | 4,24E-05 | 6,17E+05 | 0,00E+00 | 3,90E-06 | 0,00E+00 | 2,15E-04 | -1,26E-04 |
|  Eutrophication, freshwater [kg P eq.] | 7,63E-04 | 6,17E-09 | 7,63E-05 | 0,00E+00 | 5,66E-10 | 0,00E+00 | 6,62E-08 | 2,00E-05 |
|  Eutrophication, marine [kg N eq.] | 2,83E+06 | 2,68E-05 | 2,83E+05 | 0,00E+00 | 2,46E-06 | 0,00E+00 | 1,23E-04 | 5,88E-06 |
|  Eutrophication, terrestrial [Mole of N eq.] | 5,23E+07 | 2,95E-04 | 5,23E+06 | 0,00E+00 | 2,71E-05 | 0,00E+00 | 1,54E-03 | -5,00E-04 |
|  Photochemical ozone formation, human health [kg NMVOC eq.] | 6,88E+06 | 5,82E-05 | 6,88E+05 | 0,00E+00 | 5,34E-06 | 0,00E+00 | 3,19E-04 | -1,78E-04 |
|  Resource use, mineral and metals ^{1 2} [kg Sb eq.] | 2,89E-05 | 1,02E-09 | 2,88E-06 | 0,00E+00 | 9,38E-11 | 0,00E+00 | 1,44E-09 | 1,11E-07 |
|  Resource use, fossils ¹ [MJ] | 7,34E+01 | 4,37E-01 | 6,89E+00 | 0,00E+00 | 4,01E-02 | 0,00E+00 | 3,09E-01 | -3,73E+00 |
|  Water deprivation ¹ [m3 world eq.] | 1,80E+00 | 3,58E-05 | 1,98E-01 | 0,00E+00 | 3,29E-06 | 0,00E+00 | 9,56E-02 | -4,41E-02 |

¹ 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




² The results of the impact category abiotic depletion of minerals and metals may be highly uncertain in LCAs that include capital goods/infrastructure in generic datasets, in case infrastructure/capital goods contribute greatly to the total results. This is because the LCI data of infrastructure/capital goods used to quantify these indicators in currently available generic datasets sometimes lack temporal, technological and geographical representativeness. Caution should be exercised when using the results of these indicators for decision-making purposes.

RESOURCE USE






| Resource use | | | | | | | | |
|--|---------------|----------------------------|-----------|-------------------|----------|----------|-----------|----------------------------|
| Parameters | Product stage | Construction process stage | | End-of-life stage | | | | Reuse, recovery, recycling |
| | A1-A3 | A4 | A5 | C1 | C2 | C3 | C4 | D |
|  Use of renewable primary energy excluding renewable primary energy resources used as raw materials [MJ] | 3,47E+00 | 2,47E-02 | 1,44E-01 | 0,00E+00 | 2,27E-03 | 0,00E+00 | 8,17E-02 | -2,37E+00 |
|  Use of renewable primary energy used as raw materials [MJ] | 1,04E+00 | 0,00E+00 | -1,04E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
|  Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials) [MJ] | 4,50E+00 | 2,47E-02 | -8,93E-01 | 0,00E+00 | 2,27E-03 | 0,00E+00 | 8,17E-02 | -2,37E+00 |
|  Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw material [MJ] | 7,34E+01 | 4,37E-01 | 6,89E+00 | 0,00E+00 | 4,01E-02 | 0,00E+00 | 3,09E-01 | -3,73E+00 |
|  Use of non-renewable primary energy used as raw materials [MJ] | 1,64E+01 | 0,00E+00 | -5,67E-01 | 0,00E+00 | 0,00E+00 | 0,00E+00 | -1,59E+01 | 0,00E+00 |
|  Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials) [MJ] | 8,98E+01 | 4,37E-01 | 6,32E+00 | 0,00E+00 | 4,01E-02 | 0,00E+00 | -1,56E+01 | -3,73E+00 |
|  Use of secondary material [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 |
|  Use of renewable 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 |
|  Use of non-renewable 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 |
|  Use of net fresh water [m³] | 4,24E-02 | 1,97E-06 | 4,60E-03 | 0,00E+00 | 1,81E-07 | 0,00E+00 | 2,26E-03 | -1,85E-03 |

The energy stored in packaging material leave system boundary in A5 and energy stored in the product at end-of-life in C4 and is therefore reported with a negative figure in A5 respectively C4, and zero over the life-cycle. This approach is in accordance with Option A as presented in PCR 2019:14.


WASTE CATEGORIES

| Waste categories | | | | | | | | |
|---|---------------|----------------------------|-----------|-------------------|----------|----------|----------|----------------------------|
| Parameters | Product stage | Construction process stage | | End-of-life stage | | | | Reuse, recovery, recycling |
| | | A1-A3 | A4 | A5 | C1 | C2 | C3 | |
|  Hazardous waste disposed [kg] | 2,76E-09 | 0,00E+00 | -1,99E-10 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 1,72E-10 | -4,76E-09 |
|  Non-hazardous waste disposed [kg] | 8,13E-02 | 0,00E+00 | 1,47E-02 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 3,12E-02 | 4,03E-02 |
|  Radioactive waste disposed [kg] | 3,31E-03 | 0,00E+00 | 3,15E-04 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 1,42E-05 | -5,25E-04 |

OUTPUT FLOW

| Output flows | | | | | | | | |
|--|---------------|----------------------------|----------|-------------------|----------|----------|----------|----------------------------|
| Parameters | Product stage | Construction process stage | | End-of-life stage | | | | Reuse, recovery, recycling |
| | A1–A3 | A4 | A5 | C1 | C2 | C3 | C4 | D |
|  Components for re-use (CRU) [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 |
|  Materials for Recycling (MFR) [kg] | 2,17E-02 | 0,00E+00 | 4,86E-02 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
|  Materials for energy recovery (MER) [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 |
|  Exported electrical energy (EEE) [MJ] | 0,00E+00 | 0,00E+00 | 1,34E-02 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
|  Exported thermal energy (EET) [MJ] | 0,00E+00 | 0,00E+00 | 2,83E-02 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |

ADDITIONAL INDICATORS FROM EN 15804

| Environmental impacts | | | | | | | | | |
|--|---------------|----------------------------|----------|----------|-------------------|----------|----------|-----------|----------------------------|
| Parameters | Product stage | Construction process stage | | | End-of-life stage | | | | Reuse, recovery, recycling |
| | A1-A3 | A4 | A5 | C1 | C2 | C3 | C4 | D | |
|  GWP-GHG [kg CO2 eq.] | 3,16E+00 | 3,27E-02 | 3,88E-01 | 0,00E+00 | 3,01E-03 | 0,00E+00 | 2,58E-01 | -1,92E-01 | |

GWP-GHG is calculated with the same characterisation factors as in EN 15804+A2 (EN 15804 EF 3.1).

APPENDIX: ENVIRONMENTAL IMPACTS ACCORDING TO EN 15804:2012+A1

| Parameters | Product stage | Construction process stage | | End-of-life stage | | | | Reuse, recovery, recycling |
|--|---------------|----------------------------|----------|-------------------|-----------|----------|----------|----------------------------|
| | A1–A3 | A4 | A5 | C1 | C2 | C3 | C4 | |
|  Global Warming Potential (GWP) [kg CO ₂ eq.] | 3,00E+00 | 3,26E-02 | 3,18E-01 | 0,00E+00 | 2,99E-03 | 0,00E+00 | 2,58E-01 | -1,91E-01 |
|  Ozone Depletion Potential (ODP) [kg R11 eq.] | 5,80E-06 | 4,59E-15 | 5,80E-07 | 0,00E+00 | 4,22E-16 | 0,00E+00 | 1,60E-13 | 9,84E-10 |
|  Acidification potential (AP) [kg SO ₂ eq.] | 6,17E+06 | 4,24E-05 | 6,17E+05 | 0,00E+00 | 3,90E-06 | 0,00E+00 | 2,15E-04 | -1,26E-04 |
|  Eutrophication potential (EP) [kg (PO ₄) ³⁻ eq.] | 1,49E+06 | 9,12E-06 | 1,49E+05 | 0,00E+00 | 8,38E-07 | 0,00E+00 | 4,75E-05 | 7,50E-05 |
|  Photochemical ozone creation (POPC) [Ethene eq.] | 1,93E+05 | -1,21E-05 | 1,93E+04 | 0,00E+00 | -1,11E-06 | 0,00E+00 | 1,40E-05 | -2,00E-05 |
|  Abiotic depletion potential for non-fossil resources (ADP-elements) [kg Sb eq.] | 2,89E-05 | 1,02E-09 | 2,88E-06 | 0,00E+00 | 9,41E-11 | 0,00E+00 | 1,54E-09 | 1,08E-07 |
|  Abiotic depletion potential for fossil resources (ADP-fossil fuels) [MJ/FU] | 6,01E+01 | 4,27E-01 | 5,62E+00 | 0,00E+00 | 3,92E-02 | 0,00E+00 | 2,64E-01 | -2,34E+00 |



REFERENCE LIST



ISO 354:2003: Acoustics – Measurement of sound absorption in a reverberation room

ISO 21930:2017 Sustainability in buildings and civil engineering works — Core rules for environmental product declarations of construction products and services

Reach: EU REACH Regulation (EC) No 1907/2006

LCA report: Project report Clipso 495 D AB EPD

EN 15804:2012+A2:2019: Sustainability of construction works - Environmental product declarations

PCR 2019:14 Construction products (EN 15804+A2), version 1.3.4



CONTACT INFORMATION

LCA author and EPD owner



Saint-Gobain Ecophon AB
Box 500
265 03 Hyllinge
Sweden

Markus Beckman
markus.beckman@ecophon.se

Programme operator



EPD International AB
Box 210 60
100 31 Stockholm
Sweden
info@environdec.com

