

# Environmental Product Declaration

 EPD®  
THE INTERNATIONAL EPD SYSTEM



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

## Natural Air Travertine

Max dimension 3200 x 1500 mm, Stone thickness 6 mm, 8mm, 12mm  
from



|            |                                                                                           |
|------------|-------------------------------------------------------------------------------------------|
| Programme: | The International EPD® System, <a href="http://www.environdec.com">www.environdec.com</a> |
|------------|-------------------------------------------------------------------------------------------|

|                     |                      |
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| Programme operator: | EPD International AB |
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| EPD registration number: | EPD-IES-0018819 |
|--------------------------|-----------------|

|                   |            |
|-------------------|------------|
| Publication date: | 2025-03-15 |
|-------------------|------------|

|              |            |
|--------------|------------|
| Valid until: | 2030-03-14 |
|--------------|------------|

*EPD of multiple products, based on worst-case results  
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](http://www.environdec.com)*

## **General information**

## Programme information

**Programme:** The International EPD® System  
**Address:** EPD International AB  
Box 210 60  
SE-100 31 Stockholm  
Sweden  
**Website:** [www.environdec.com](http://www.environdec.com)  
**E-mail:** [info@environdec.com](mailto:info@environdec.com)

### Accountabilities for PCR, LCA and independent, third-party verification

#### Product Category Rules (PCR)

CEN standard EN 15804 serves as the Core Product Category Rules (PCR)

Product Category Rules (PCR): “Construction Products” n.2019:14, 2024-04-30 Version 1.3.4,  
UN CPC Code 37610

PCR review was conducted by: *The Technical Committee of the International EPD System. See [www.environdec.com](http://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](http://www.environdec.com/contact).*

#### Life Cycle Assessment (LCA)

LCA accountability: *LCA-lab srl, spin-off ENEA, Bologna, Italy, [info@lca-lab.com](mailto:info@lca-lab.com)*

#### Third-party verification

Independent third-party verification of the declaration and data, according to ISO 14025:2006, via:

x EPD verification by accredited certification body

Third-party verification: *CERTIQUALITY SRL, Milano, Italy* is an approved certification body accountable for the third-party verification

*The certification body is accredited by: ACCREDIA, accreditation number 00027VV rev.001*

Procedure for follow-up of data during EPD validity involves third party verifier:

☐ Yes   x 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.*





## **Company information**

**Owner of the EPD:**

Gammastone Srl, Via Flaminia 148 (km 41,100), 00068, Rignano Flaminio (RM) Italy

**Contact:**

Amos Castrignanò, E-mail: [a.castrignano@gammastone.com](mailto:a.castrignano@gammastone.com) ; T +39 0761 184 0234

**Description of the organisation:**

GammaStone is a company that designs and produces ventilated facade systems. Its production is totally automated and based on highly sophisticated machinery. This includes Design, preparing materials, cutting slabs, shaping, finishing edges and machining surfaces. In addition, GammaStone uses a fully automated quality control system to ensure that all products meet the required standards.



**Product-related or management system-related certifications:** ISO 9001, NFPA 285, BS 8414 Fire Test, Rina IMO MED, Emirates Homologation

**Name and location of production site(s):** GAMMASTONE SRL, Loc. Quartaccio - SP 74 (km 1,45) 01034 Fabrica di Roma (VT) Italy



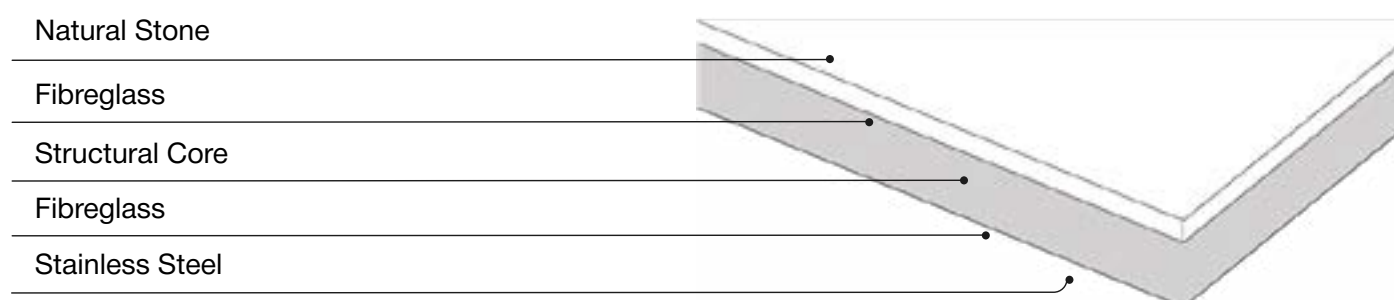


## **Product information**

**Product name:** NATURAL AIR TRAVERTINE for ventilated facades and interior design

**Product identification:** The GammaStone Natural AIR solution in natural stone allows the mechanical installation of large sized panels formed with travertine. It can be used to make beams, columns and any other architectural element with a monolithic result, creating the effect of one piece. The available sizes depend on the block size, the maximum dimension is 3200x1500 mm in 3 thickness.

**Product description:** The NATURAL AIR TRAVERTINE is for ventilated facades and interior design. The Natural Air panel consists of a thin stone slab and a structural core placed between two fiberglass mats and supported by a 0.5 mm thick stainless steel plate.



## TECHNICAL DATA NATURAL AIR 6mm

|                       | EU                                  | USA                               |
|-----------------------|-------------------------------------|-----------------------------------|
| Max panel size        | 3200X1500 mm<br>4,85 m <sup>2</sup> | 126"x 59"<br>52,42ft <sup>2</sup> |
| Total panel thickness | 17 mm                               | 43"/64"                           |
| Stone thickness       | 6 mm                                | 15"/64"                           |
| Panel weight          | 21 kg/m <sup>2</sup>                | 5,1lb/sqft                        |

## TECHNICAL DATA NATURAL AIR 8mm

|                       | EU                                  | USA                               |
|-----------------------|-------------------------------------|-----------------------------------|
| Max panel size        | 3200X1500 mm<br>4,85 m <sup>2</sup> | 126"x 59"<br>52,42ft <sup>2</sup> |
| Total panel thickness | 19 mm                               | 3"/4"                             |
| Stone thickness       | 8 mm                                | 5"/16"                            |
| Panel weight          | 28 kg/m <sup>2</sup>                | 5,73 lb/sqft                      |

## TECHNICAL DATA NATURAL AIR 12mm

|                       | EU                                  | USA                               |
|-----------------------|-------------------------------------|-----------------------------------|
| Max panel size        | 3200X1500 mm<br>4,85 m <sup>2</sup> | 126"x 59"<br>52,42ft <sup>2</sup> |
| Total panel thickness | 23 mm                               | 29"/32"                           |
| Stone thickness       | 12 mm                               | 15"/32"                           |
| Panel weight          | 36 kg/m <sup>2</sup>                | 7,4 lb/sqft                       |

**UN CPC code:** 37610 “Marble, travertine and alabaster, worked, and articles thereof (except setts, curbstones, flagstones, tiles, cubes and similar articles); artificially coloured granules, chippings and powder of marble, travertine and alabaster”.

**Geographical scope:**

A1: Italy and Europe

A2: Italy and Europe

A3: Italy

C1-C4: Global

D: Global

## LCA information

**Declared unit:** : 1 m<sup>2</sup> of Natural Travertine max panel size (3200 x1500 mm, thickness 6mm, 8mm, 12mm) including its packaging (the weight of the packaging is not included in this 1 m<sup>2</sup>).

Conversion factor of the impact assessment results in this EPD from the declared unit to mass is 36 kg.

**Reference service life:** ND (Not Declared)

**Time representativeness:** 2023

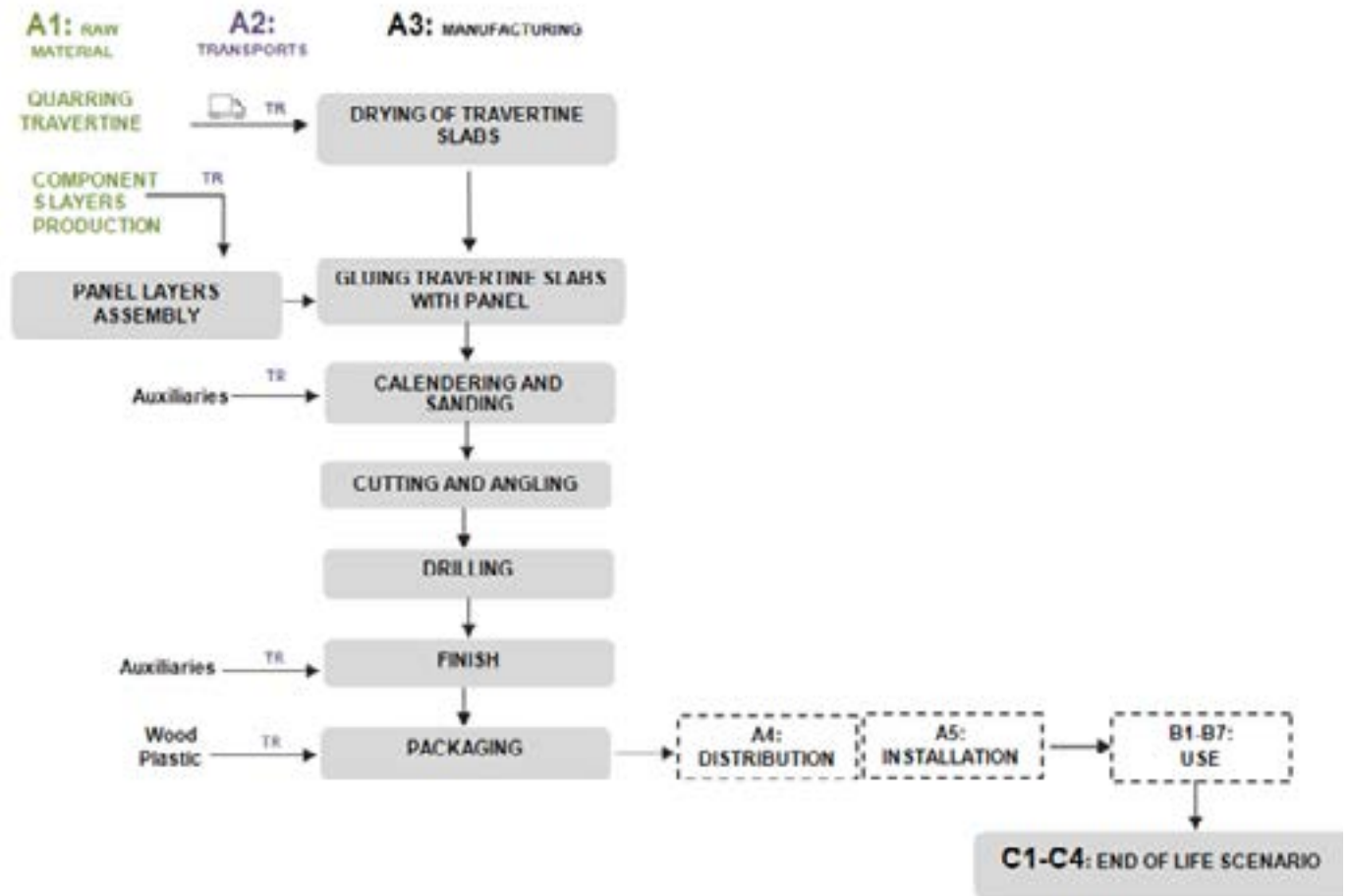
**Database and LCA software used:** Ecoinvent v.3.9.1, Simapro v.9.6.0.1

**Description of system boundaries:** Cradle to gate with modules C1–C4 and module D (A1–A3 + C + D)

**Exclusions:** The optional modules (A4, A5, B1-B7) were excluded because they were less controlled by the Organisation. In addition, the personnel-related processes, such as transportation of employees to and from work, and the infrastructure and capital good of the organisation, were excluded (except the infrastructure/capital goods includes in the generic LCI dataset).

**Data Quality:** The data quality assessment result, by applying the DQR (data Quality Rating) formula (Racc.EU 2021/2279 on product Environmental Footprint), is “very good” (rating: from > 1.5 to ≤ 2.0). The proxy data used do not exceed the 10%.

## System diagram



**Fig. 1** - System diagram of natural travertine panel production (treated boxes are excluded from the system boundaries)

## More information:

**A1:** The Travertine quarry, named Kingstone, is owned by Gammastone, is located in Via Ponzano Cave – 01033 Civita Castellana (VT, Italy) in the area between the Treja river and Mount Soratte. The morphology of the deposit is tabular, slightly wedge-shaped and remains interspersed with the pyroclastic formations that characterize the general geology of the outcrop area. Travertine from Lazio (Italy) can mostly be defined as thermogenic. Although they come from different areas and have variable thicknesses, they are closely connected to magmatic events that fit well into the genetic geological context of the formation of the Apennine chain. The age of the deposits is Pleistocene, ranging from 820,000 to 220,000 years. The primary phase consists in cutting horizontally the wall of the mountain with the chain saw that makes precise cuts at the base of the mountain penetrating like the blade of a knife. The second phase consists in cutting vertically the wall of the mountain by a diamond wire machine, creating the bench. Once the bench is free from constraints it is pushed and dropped by means of inflated metallic balloons. On the ground the bench will suffer several breaks usually on the layers. The third phase consists in the squaring of the blocks using the diamond wire, to remove defects and to allow selection according to further processing. Limestone rock of subaerial chemical deposit, recently formed (Quaternary) from saturated water of calcium carbonate ( $\text{CaCO}_3$ ).

**A2:** The main components of Natural Air Panel are supplied and produced from Italy, except the structural core PE which is produced and transported from Switzerland. Transports of raw material is all by road by lorry diesel > 32t, Euro 5.

**A3:** The manufacturing includes preparing materials, cutting slabs, shaping, finishing edges and machining surfaces, in final the shipping packaging. The packaging for the finished product shipping is a wooden cage and a polystyrene wrapping.

The purchased electricity used in the manufacturing process of module A3 accounts for less than 30% of the GWP-GHG results of modules A1-A3. The Electricity, medium voltage residual mix modelled by Ecoinvent database v.3.9.1, was used and its climate impact is 0.62 kgCO<sub>2</sub>eq/kWh (GWP-GHG results).

**C1:** The data of demolition/deconstruction are not known, so assumptions have been made. The Ecoinvent database Energy for demolition waste brick equal to 0.754MJ/m<sup>2</sup> was assumed.

**C2:** The data of Transport to End of Life product are not known, so assumptions have been made. The distance of 100 km was assumed with road by lorry diesel > 32t, Euro 5.

**C3:** : Waste processing of product: since in 2023 the product was only sold in the US and this is also the worst case, the US scenario (Construction and Demolition Debris Management in the United States, 2015 U.S. Environmental Protection Agency Office of Resource Conservation and Recovery, March 2020) recycling/recovery C&D waste 76% was assumed.

**C4:** Disposal of product: the US scenario (worst case) (Construction and Demolition Debris Management in the United States, 2015 U.S. Environmental Protection Agency Office of Resource Conservation and Recovery, March 2020) landfilling C&D waste 24% was assumed.

**D:** Benefits potential of recycling of product: 76% (see C3).

Benefits potential of recycling of packaging: EPA (Environmental Protection Agency) estimated wood pallet recycling in 2018 for a 17.1% recycling rate.

According to the U.S. Plastics Pact's Annual Report, based on data from 2021, 13.3% of plastics packaging was recycled.

As the panel can be disassembled, EoL scenarios were calculated for each type of material of the panel components.

# Information

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

|                      | Product stage       |           |               | Construction process stage |                           | Use stage |             |        |             |               |                        |                       | End of life stage          |           |                  |          | Resource recovery stage            |
|----------------------|---------------------|-----------|---------------|----------------------------|---------------------------|-----------|-------------|--------|-------------|---------------|------------------------|-----------------------|----------------------------|-----------|------------------|----------|------------------------------------|
|                      | 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             | MND                        | MND                       | MND       | MND         | MND    | MND         | MND           | MND                    | MND                   | x                          | X         | X                | X        | x                                  |
| Geography            | IT, EU              | IT, EU    | IT            |                            |                           |           |             |        |             |               |                        |                       | GLO                        | GLO       | GLO              | GLO      | GLO                                |
| Specific data used   | >90%                |           |               |                            |                           | -         | -           | -      | -           | -             | -                      | -                     | -                          | -         | -                | -        | -                                  |
| Variation – products | <10%                |           |               |                            |                           | -         | -           | -      | -           | -             | -                      | -                     | -                          | -         | -                | -        | -                                  |
| Variation – sites    | -                   |           |               |                            |                           | -         | -           | -      | -           | -             | -                      | -                     | -                          | -         | -                | -        | -                                  |

## Content information

| Product components                      | Weight, kg (UD) | Post-consumer recycled material, weight-% of product | Biogenic material, weight % of product | Biogenic material, kg C declared unit |
|-----------------------------------------|-----------------|------------------------------------------------------|----------------------------------------|---------------------------------------|
| Natural Travertine (CaCO <sub>3</sub> ) | 29.8            | 0                                                    | 0                                      | 0                                     |
| Stainless steel                         | 3.96            | 0                                                    | 0                                      | 0                                     |
| Structural core PE                      | 1.09            | 0                                                    | 0                                      | 0                                     |
| Chemicals                               | 0.69            | 0                                                    | 0                                      | 0                                     |
| Glass fibre                             | 0.40            | 0                                                    | 0                                      | 0                                     |
| <b>Total</b>                            | <b>29.8</b>     | <b>0</b>                                             | <b>0</b>                               | <b>1.8</b>                            |
| Packaging materials                     | Weight, kg (UD) | Weight-% (versus the product)                        |                                        | Biogenic material, kg C declared unit |
| Wood                                    | 1.05            | 2.83                                                 |                                        | 0.49                                  |
| Plastic                                 | 0.095           | 0.25                                                 |                                        | 0                                     |
| <b>Total</b>                            | <b>1.14</b>     | <b>3.08</b>                                          |                                        | <b>0.49</b>                           |

| Dangerous substances from the candidate list of SVHC for Authorisation                                               | EC No. | CAS No. | Weight-% per declared unit |
|----------------------------------------------------------------------------------------------------------------------|--------|---------|----------------------------|
| The product does not contain substances on the candidate list according to REACH regulation higher than 0.1% by mass |        |         |                            |

## **Results of the environmental performance indicators**

The environmental indicators was calculated with the characterization factors EF v.3.1, Version 2.0 of the list, “EN 15804 reference package” provided by JRC (available at <https://eplca.jrc.ec.europa.eu/LCDN/EN15804.html>), updated in February 2023.

Legend:  $4.9\text{E}+01 = 49$ ;  $3.3\text{E}-02 = 0.033$ .

The results are for the worst case, thickness 12mm.

*Disclaimer: 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.*

## Mandatory impact category indicators according to EN 15804

| Results per declared unit (1m <sup>2</sup> ) |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |         |         |         |         |         |          |
|----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|---------|---------|---------|---------|----------|
| Indicator                                    | Unit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | A1-A3   | C1      | C2      | C3      | C4      | D        |
| GWP-total                                    | kg CO <sub>2</sub> eq.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 5,1E+01 | 1,3E-01 | 3,8E-01 | 6,6E-01 | 5,1E-01 | -1,8E+01 |
| GWP-fossil                                   | kg CO <sub>2</sub> eq.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 5,0E+01 | 1,3E-01 | 3,8E-01 | 6,6E-01 | 5,1E-01 | -1,7E+01 |
| GWP-biogenic                                 | kg CO <sub>2</sub> eq.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 1,2E+00 | 2,9E-05 | 1,4E-04 | 3,0E-03 | 6,2E-05 | -2,7E-01 |
| GWP-luluc                                    | kg CO <sub>2</sub> eq.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 3,3E-02 | 1,4E-05 | 1,9E-04 | 1,2E-03 | 3,3E-05 | -1,8E-02 |
| ODP                                          | kg CFC 11 eq.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 9,6E-07 | 2,0E-09 | 5,9E-09 | 5,1E-09 | 1,6E-09 | -1,7E-07 |
| AP                                           | mol H <sup>+</sup> eq.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 2,3E-01 | 1,2E-03 | 1,4E-03 | 3,6E-03 | 4,8E-04 | -9,8E-02 |
| EP-freshwater                                | kg P eq.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 1,2E-02 | 3,9E-06 | 3,1E-05 | 2,6E-04 | 5,2E-06 | -5,6E-03 |
| EP-marine                                    | kg N eq.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 4,5E-02 | 5,5E-04 | 4,6E-04 | 9,2E-04 | 6,8E-04 | -1,8E-02 |
| EP-terrestrial                               | mol N eq.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 4,7E-01 | 6,0E-03 | 4,8E-03 | 9,5E-03 | 2,1E-03 | -1,9E-01 |
| POCP                                         | kg NMVOC eq.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1,8E-01 | 1,8E-03 | 2,0E-03 | 2,8E-03 | 6,8E-04 | -6,7E-02 |
| ADP-fossil*                                  | MJ                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 7,4E+02 | 1,7E+00 | 5,5E+00 | 8,6E+00 | 1,4E+00 | -2,3E+02 |
| ADP-minerals&metals*                         | kg Sb eq.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 8,6E-04 | 4,5E-08 | 1,0E-06 | 5,8E-07 | 8,6E-08 | -4,7E-04 |
| WDP*                                         | m <sup>3</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1,8E+01 | 3,6E-03 | 2,8E-02 | 1,0E-01 | 5,6E-02 | -5,1E+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 of these results are high or as there is limited experience with the indicator.*

*Disclaimer: As the module C is included in the EPD, discouraging the use of the results of modules A1-A3 without considering the results of module C*

*Disclaimer: The results of the impact categories 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.*

## Additional mandatory impact category indicators

| Results per declared unit (1m <sup>2</sup> ) |                        |         |         |         |         |         |          |
|----------------------------------------------|------------------------|---------|---------|---------|---------|---------|----------|
| Indicator                                    | Unit                   | A1-A3   | C1      | C2      | C3      | C4      | D        |
| GWP-GHG <sup>1</sup>                         | kg CO <sub>2</sub> eq. | 5,0E+01 | 1,3E-01 | 3,8E-01 | 6,6E-01 | 5,1E-01 | -1,7E+01 |

## Resource use indicators

| Results per declared unit (1m <sup>2</sup> ) |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |         |         |         |         |         |          |
|----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|---------|---------|---------|---------|----------|
| Indicator                                    | Unit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | A1-A3   | C1      | C2      | C3      | C4      | D        |
| PERE                                         | MJ                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 1,4E+02 | 9,6E-03 | 7,0E-02 | 9,2E-01 | 1,3E-02 | -4,5E+01 |
| PERM                                         | MJ                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 1,3E-01 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | -5,5E-03 |
| PERT                                         | MJ                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 1,4E+02 | 9,6E-03 | 7,0E-02 | 9,2E-01 | 1,3E-02 | -4,5E+01 |
| PENRE                                        | MJ                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 6,8E+02 | 1,7E+00 | 5,5E+00 | 8,6E+00 | 1,4E+00 | -2,0E+02 |
| PENRM                                        | MJ                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 6,6E+01 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | -3,7E+01 |
| PENRT                                        | MJ                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 7,4E+02 | 1,7E+00 | 5,5E+00 | 8,6E+00 | 1,4E+00 | -2,3E+02 |
| SM                                           | kg                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 0       | 0       | 0       | 0       | 0       | 0        |
| RSF                                          | MJ                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 0       | 0       | 0       | 0       | 0       | 0        |
| NRSF                                         | MJ                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 0       | 0       | 0       | 0       | 0       | 0        |
| FW                                           | m <sup>3</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 5,3E-01 | 1,3E-04 | 8,7E-04 | 4,1E-03 | 1,4E-03 | -1,5E-01 |
| 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 resources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water |         |         |         |         |         |          |

*Disclaimer: The calculation of the primary energy use indicators is done via option A of Annex 3 PCR 2019:14 v.1.3.4.*

<sup>1</sup> 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<sub>2</sub> is set to zero.

## Waste indicators

| Results per declared unit (1m <sup>2</sup> ) |      |         |         |         |         |         |          |
|----------------------------------------------|------|---------|---------|---------|---------|---------|----------|
| Indicator                                    | Unit | A1-A3   | C1      | C2      | C3      | C4      | D        |
| Hazardous waste disposed                     | kg   | 2,2E-09 | 1,1E-11 | 3,5E-11 | 1,9E-11 | 7,4E-12 | -4,0E-10 |
| Non-hazardous waste disposed                 | kg   | 6,4E+01 | 2,4E-03 | 4,8E-01 | 7,5E-02 | 1,7E+01 | -1,6E+01 |
| Radioactive waste disposed                   | kg   | 1,0E-03 | 1,8E-07 | 1,2E-06 | 2,0E-05 | 2,2E-07 | -2,8E-04 |

## Output flow indicators

| Results per declared unit (1m <sup>2</sup> ) |      |         |         |         |         |         |         |
|----------------------------------------------|------|---------|---------|---------|---------|---------|---------|
| Indicator                                    | Unit | A1-A3   | C1      | C2      | C3      | C4      | D       |
| Components for re-use                        | kg   | 0       | 0       | 0       | 0       | 0       | 0       |
| Material for recycling                       | kg   | 7,6E+01 | 0,0E+00 | 0,0E+00 | 2,7E+01 | 0,0E+00 | 0,0E+00 |
| Materials for energy recovery                | kg   | 0       | 0       | 0       | 0       | 0       | 0       |
| Exported energy, electricity                 | MJ   | 0       | 0       | 0       | 0       | 0       | 0       |
| Exported energy, thermal                     | MJ   | 0       | 0       | 0       | 0       | 0       | 0       |

## Differences versus previous versions

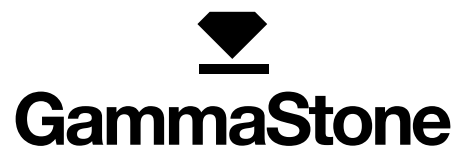
This is the first version.

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