

Environmental Product Declaration

EPD of multiple products, based on a representative product. In accordance with ISO 14025:2006 and EN 15804:2012+A2:2019/AC:2021 for:

Bricmate Porcelain Stoneware 12MM

Stone Select 12mm, Norrvange 12mm, Jura Select 12mm, Azul 12mm, Kolmården 12mm

from

bricmate[®]

| | |
|--------------------------|--|
| Programme: | The International EPD System, www.environdec.com |
| Programme operator: | EPD International AB |
| Type of EPD: | EPD of multiple products from a company |
| EPD registration number: | EPD-IES-0027462:001 |
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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 Box 210 60 SE-100 31 Stockholm Sweden |
| Website: | www.environdec.com |
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| Product Category Rules (PCR) |
|---|
| CEN standard EN 15804 serves as the Core Product Category Rules (PCR) |
| Product Category Rules (PCR): <i>Construction products 2019:14, version 2.0.1, valid until 2030-04-07, UN CPC code: 37310</i> |
| <p>PCR review was conducted by: <i>The Technical Committee of the International EPD® System. See www.environdec.com for a list of members. Review chair: Rob Rouwette (chair), Noa Meron (cochair). The review panel may be contacted via the Secretariat www.environdec.com/contact</i></p> |
| c-PCR, where applicable: C-PCR-002 CERAMIC TILES, EN 17160:2019 |

| Third-party Verification |
|--|
| Independent third-party verification of the declaration and data, according to ISO 14025:2006, via: |
| <p>Individual EPD verification without a pre-verified LCA/EPD tool Third-party verifier: <i>David Althoff Palm, Dalemarken AB, Sweden.</i></p> |
| Approved by: The International EPD System |
| Procedure for follow-up of data during EPD validity involves third party 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 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:

Bricmate AB

Address:

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Contact:

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Address and contact information of the LCA practitioner commissioned by the EPD owner

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Description of the organisation:

Bricmate is a Swedish company founded in 2007 that specializes in porcelain stoneware and granite-ceramic tiles for floors, walls, countertops, and outdoor surfaces. Their products emphasize timeless Scandinavian design, high durability, and customization in finishes such as matt, honed, silk, and 3D textures.

Product-related or management system-related certifications:

The Swedish Environmental Base standard for environmental management systems

E-BVD (Byggvarubedömningen)

Basta

PRODUCT INFORMATION

Product name:

12mm porcelain countertop. EPD of multiple products, based on a representative product Norrvange Natural 12mm.

Product identification:

The 12mm porcelain countertop with a thickness of 12mm comes in one size, 1560x3200mm. The representative product of the EPD is the Norrvange Natural 12mm porcelain countertop. There are 5 design variations (with several different colours available each), and three possible surface treatments (Matt, Honed, and 3D). All colours are included for the list below, where all included products in the EPD are stated.

- Natural: Norrvange 12mm, Jura Select 12mm, Azul 12mm, and Stone Select 12mm
- Honed: Norrvange 12mm, Jura Select 12mm, Azul 12mm, Stone Select 12mm, and Kolmården 12mm
- Textured: Jura Select 12mm, and Stone Select 12mm

Visual representation (e.g., an image) of the product



UN CPC code:

37310 Porcelain tiles and other ceramic goods of siliceous earths

Product description:

Bricmate's 12 mm porcelain stoneware is used for countertops and vanity tops in kitchens, bathrooms, and other environments where materials such as stone, marble, or laminate are typically applied. Composed entirely of natural raw materials, it offers a hygienic, durable, and safe surface with no release of hazardous substances during use, in accordance with ISO testing. The material provides excellent technical performance: it is highly resistant to wear, stains, and acids, and its surface is easy to clean with standard cleaning agents. It comes in a standard size of 1560x3200mm, which can be divided into custom sized sections by their customers.

The ceramic product falls under the classification of Bl_a when assessing water absorption and shaping method.

For more information regarding the products see, Bricmate.se

Name and location of production site(s):

Bricmate outsource the production of their porcelain tiles to the producer Living Ceramics, with the facility located in Onda, Spain.

Most of the products are shipped and stored at a warehouse in Herrljunga before sent out to customers.

Multiple products:

All products included in this EPD are porcelain tiles. Four variations will be included in this product group, and they all consist of a porcelain body, glaze, glaze cover and inkjet. All included products share the same geographical scope and production site. The product “Norrvinge Natural 12mm” was chosen as representative product as it is the most sold of all the products in this product group. The deviation of the GWP-GHG value relative to the representative product can be seen in “Additional LCA results”, as well as the variation of the environmental impact indicator results for modules A-C between any of the products that exceeds 10%.

The different material composition of the included products in this EPD are shown below.

| Products in the group | Porcelain body | Glazing | Glaze Cover | Inkjet | Glass fibre mat | Total weight (kg/product) |
|-----------------------|----------------|---------|-------------|---------|-----------------|---------------------------|
| Natural | 26,4 | 0,734 | 0 | 0,00408 | 0,202 | 27,3 |
| Honed | 25,8 | 0,629 | 0,683 | 0,00820 | 0,202 | 27,3 |
| Textured | 26,4 | 0,777 | 0 | 0,00545 | 0,202 | 27,3 |

CONTENT DECLARATION

The content declaration presents the content of the representative product 1 m² of Norrvange Natural 12mm countertop to be used for 50 years, together with the ranges in content for all included products. The weight of the representative product per m² is 27,3 kg.

| Product content | Mass, kg/m ² | Post-consumer recycled material, mass-% of product | Biogenic material, mass-% of product | Biogenic material, kg C/product or declared unit |
|-----------------|-----------------------------|--|--------------------------------------|--|
| Porcelain body | 26,4 (25,8 - 26,4) | 0 | 0 | 0 |
| Glazing | 0,734 (0,629 - 0,777) | 0 | 0 | 0 |
| Glaze cover | 0 (0 - 0,683) | 0 | 0 | 0 |
| Inkjet | 0,00408 (0,00408 - 0,00820) | 0 | 0 | 0 |
| Glass fibre mat | 0,202 | 0 | 0 | 0 |
| TOTAL | 27,3 | 0 | 0 | 0 |

| Packaging materials | Mass, kg/m ² | Mass-% (versus the product) | Biogenic material, kg C/product or declared unit |
|---------------------|-------------------------|-----------------------------|--|
| A-Frame | 0,305 | 1,1% | 0 |
| Plastic HPDE | 0,00458 | 0,02% | 0 |
| Plastic film | 0,0179 | 0,1% | 0 |
| Total | 0,328 | 1,2% | 0 |

1 kg biogenic carbon in the product/packaging is equivalent to the uptake of 44/12 kg of CO₂.

No substances from the Candidate List of Substances of Very High Concern (SVHC), which exceeds the limits for registration with the European Chemicals Agency have been reported for the included products.

LCA INFORMATION

Functional unit:

1 m² of ceramic countertop for a period of 50 years

Conversion factor to mass if mass is not used as functional/declared unit (not applicable for services):

1m² of ceramic countertop equals 27,3kg

Reference service life:

Reference service life is 50 years, technical lifespan is assumed to be 50 years if it is properly installed.

Time representativeness:

The collected data is representative of the year 2023 and was obtained directly from the supplier

Geographical scope:

The raw materials used in the products are locally sourced from suppliers in the region of Onda, Spain, where the manufacturing site is located. Finished products are transported from manufacturing site in Spain to warehouses in Sweden where Bricmate's main customers are located. Therefore is all downstream life cycle stages representative for Sweden.

Database(s) and LCA software used:

Ecoinvent 3.11, SimaPro 10.2.

LCIA method:

The LCIA method follows the standard for Construction Products EN 15804:2012+A2:2019/AC:2021. EN 15804:2012+A2:2019/AC:2021 uses the impact categories and characterization factors of the LCIA methods used in Environmental Footprint 3.1 (EF 3.1), with the only difference that biogenic carbon dioxide uptake is calculated as -1 and biogenic carbon dioxide emissions as +1, where EF 3.1 calculates this as 0 and 0, respectively.

Cut-off criteria:

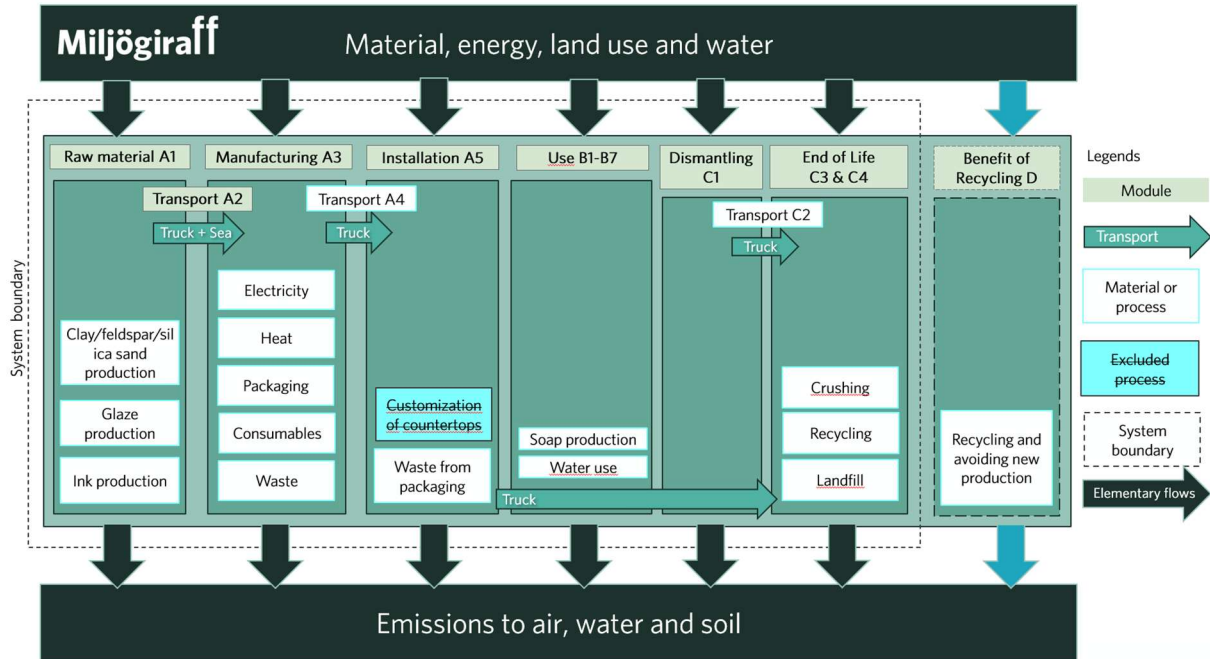
The cut-off criteria established by the PCR is 1% of all material and energy flows to a single unit process and 5% of total inflows (mass and energy) per module. No cut-offs exceeding this limit have been made.

In this study, the infrastructure and capital goods are included in the LCA analysis since it is not possible within reasonable effort to subtract the data on infrastructure/capital goods.

Description of system boundaries:

The system boundary for the study follows option c). Cradle to grave and module D (A + B + C + D). All processes needed for raw material extraction, manufacturing, transport, usage, and end-of-life are included in the study.

Process flow diagram:



More information:

(A1-A3) The main raw materials in the products consist of clay and glaze which are sourced from local suppliers in the region of Onda, Spain and are transported by truck to the manufacturing site which is also located in this region. Bricmate outsource the production of their porcelain tiles to their partner Living Ceramics which owns the manufacturing site in Onda. The manufacturing of porcelain tiles uses a kiln to fire the raw materials in various steps. The kiln is mainly fired with natural gas, but electricity is also used at the facility. As Living Ceramics do not buy any electricity with Guarantees of Origin, the electricity was modelled with the Spanish residual electricity mix. This was represented with the ecoinvent dataset *Electricity, medium voltage {ES} electricity, medium voltage, residual mix | Cut-off, U*, which has a carbon footprint of 0,412 kg CO₂-eq/kWh.

Finished products are thereafter transported by truck and ships to warehouse in Sweden. The ship transport was modelled with *Transport, freight, sea, container ship, heavy fuel oil {GLO} transport, freight, sea, container ship, heavy fuel oil | Cut-off, U*. The truck transport was modelled with the ecoinvent process *Transport, freight, lorry 16-32 metric ton, EURO6 {RER} transport, freight, lorry 16-32 metric ton, EURO6 | Cut-off, U*.

The warehouse uses electricity to heat and run their facilities. No certified electricity is bought for the warehouses, and therefore the electricity has been modelled with Swedish residual electricity mix, which was represented with the ecoinvent dataset *Electricity, low voltage {SE} electricity, low voltage, residual mix | Cut-off, U*. The carbon footprint of the dataset is 0,092 kg CO₂-eq / kWh.

(A4) Bricmate’s customers are mainly located in Sweden, but also Norway, Denmark and Finland. The average transport distance was based on statistics for the year 2024. The average transportation distance from warehouses in Sweden to customers was 433 km with trucks, and 3,8 km with ferry. The truck transport was modelled with the ecoinvent process *Transport, freight, lorry 16-32 metric ton, EURO6 {RER} transport, freight, lorry 16-32 metric ton, EURO6 | Cut-off, U*. Other mandatory information from table 10 from section 7.3.2.1 in EN15804+A2 regarding A4 is declared below:

- Fuel type and amount: Heavy Fuel Oil, 2,52E-03 per tkm,
- Capacity utilization: ca 50%

- Bulk density of transported goods: ca 400 kg/m³
- Volume capacity utilization factor: <1

(A5) Installation of the countertop require 300g silicone adhesive per m². No other consumables or energy is assumed. The waste treatment of the packaging materials that comes with the product, which follows the end-of-life treatment in module C are included.

(B2) Wall and floor tiles are assumed to be maintained regularly. According to the c-PCR, wall tiles are cleaned once every 3 month and floor tiles are cleaned once every two week and wiped once every week. 0,134ml soap and 0,1l water is used per m² and per cleaning, and 0,1l water is used per m² and wiping. All other B modules have no impact

(C1-C4) After use, the product is deinstalled and transported to waste processing. Default values provided by the c-PCR (EN 17160:2019) are applied for transportation distances. C1 is negligible and therefore below cutoff. The ceramic tile demolition waste is transported from the customer/building site to a container or treatment plant by truck and it is considered an average distance of 20 km. It is considered that the average distance from the container or treatment plant to final destination is 30 km. The transport is modelled using the ecoinvent 3.10 dataset "Transport, freight, lorry 16-32 metric ton, EURO6 {RER}| transport, freight, lorry 16-32 metric ton, EURO6 | Cut-off, U". Other mandatory information from table 10 from section 7.3.2.1 in EN15804+A2 regarding A4 is declared below:

- Fuel type and amount: Heavy Fuel Oil, 2,52E-03 per tkm,
- Capacity utilization: ca 50%
- Bulk density of transported goods: ca 400 kg/m³
- Volume capacity utilization factor: <1

Based on a report from WSP and Byggkeramikrådet on the pathways of waste ceramics, the product are assumed to be used as construction materials at landfill, where it is used to build landfill cells, provide intermediate cover, or form leveling layers beneath the sealing system. Prior to that, the product do not need to be processed any further. C3 is therefore zero. The material are assumed to replace backfilling material, however no credits are given as a conservative assumption.

(D) Module D accounts for the potential environmental benefits or burdens resulting from material recycling and landfilling. As the product is assumed to end up as construction material at landfills, it is assumed to replace other backfilling materials.

Data quality summary according to EN 15941:

The EPD is based on data collected by Bricmate AB from their supplier's site in Onda, Spain over one year from 2023. The EPD is representative of the production of 12mm countertops in various sizes produced in Onda, Spain and data are collected directly from supplier and production site. The end-of-life stage of the EPD covers Sweden. The EPD uses background data from the Ecoinvent database v3.11. The quality of the relevant data used for the EPD in terms of its time, geography and technology representativeness using EN 15804:2012+A2:2019, Annex E, E.1 is very good or good. The relevant data assessed included no other poor or very poor data. Infrastructure and capital goods are included for datasets from the Ecoinvent database, as it was not possible within reasonable effort to exclude these.

Modules declared, geographical scope, share of primary 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 | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| Geography | ES | ES | EUR | SE | SE | SE | SE | SE | SE | SE | SE | SE | SE | SE | SE | SE | SE |
| Share of primary data | 76,8% | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Variation – products | 0,4% | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Variation – sites | 0% | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

Declaration of data sources, reference years, data categories, and share of primary data:

| Process | Source type | Source | Reference year | Data category | Share of primary data, of GWP-GHG results for A1-A3 |
|---|-------------|-----------------|----------------|---------------|---|
| Natural gas for manufacturing | Database | Ecoinvent v3.11 | 2023 | Primary data | 63,9% |
| Transport of raw materials | Database | Ecoinvent v3.11 | 2024 | Primary data | 0,4% |
| Transport of product from manufacturing to warehouse | Database | Ecoinvent v3.11 | 2024 | Primary data | 12,6% |
| Total share of primary data, of GWP-GHG results for A1-A3 | | | | | 76,8% |

The share of primary data is calculated based on GWP-GHG results. It is a simplified indicator for data quality that supports the use of more primary data, to increase the representativeness of and comparability between EPDs. Note that the indicator does not capture all relevant aspects of data quality and is not comparable across product categories.

ENVIRONMENTAL PERFORMANCE

LCA results of the product(s) - main environmental performance results

Mandatory impact category indicators according to EN 15804

| Results per m2 of countertop for a period of 50 years | | | | | | | | | | | | | | | | |
|---|---|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|
| Indicator | Unit | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 | D |
| GWP-total | kg CO ₂ eq. | 1,6E+01 | 1,8E+00 | 1,2E+00 | 0,0E+00 | 1,4E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 4,6E-01 | 0,0E+00 | 0,0E+00 | -4,1E-01 |
| GWP-fossil | kg CO ₂ eq. | 1,6E+01 | 1,8E+00 | 1,1E+00 | 0,0E+00 | 9,5E-01 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 4,6E-01 | 0,0E+00 | 0,0E+00 | -4,3E-01 |
| GWP-biogenic | kg CO ₂ eq. | 1,4E-02 | 3,9E-04 | 7,8E-03 | 0,0E+00 | 4,2E-03 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 1,0E-04 | 0,0E+00 | 0,0E+00 | 1,4E-02 |
| GWP-luluc | kg CO ₂ eq. | 8,1E-03 | 6,2E-04 | 8,4E-04 | 0,0E+00 | 4,9E-01 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 1,7E-04 | 0,0E+00 | 0,0E+00 | 1,3E-03 |
| ODP | kg CFC 11 eq. | 6,0E-07 | 4,0E-08 | 2,2E-05 | 0,0E+00 | 1,6E-08 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 1,0E-08 | 0,0E+00 | 0,0E+00 | -2,7E-10 |
| AP | mol H ⁺ eq. | 1,2E-01 | 3,9E-03 | 3,8E-03 | 0,0E+00 | 7,8E-03 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 9,7E-04 | 0,0E+00 | 0,0E+00 | -1,7E-03 |
| EP-freshwater | kg P eq. | 1,6E-04 | 1,4E-05 | 2,9E-05 | 0,0E+00 | 8,8E-05 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 3,9E-06 | 0,0E+00 | 0,0E+00 | -1,8E-05 |
| EP-marine | kg N eq. | 3,3E-02 | 9,3E-04 | 7,0E-04 | 0,0E+00 | 5,2E-03 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 2,1E-04 | 0,0E+00 | 0,0E+00 | -2,1E-04 |
| EP-terrestrial | mol N eq. | 3,7E-01 | 1,0E-02 | 7,7E-03 | 0,0E+00 | 2,3E-02 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 2,4E-03 | 0,0E+00 | 0,0E+00 | -4,6E-03 |
| POCP | kg NMVOC eq. | 1,1E-01 | 6,2E-03 | 3,5E-03 | 0,0E+00 | 4,2E-03 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 1,5E-03 | 0,0E+00 | 0,0E+00 | -1,6E-03 |
| ADP-minerals&metals* | kg Sb eq. | 8,0E-05 | 6,3E-06 | 6,6E-06 | 0,0E+00 | 8,3E-06 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 2,0E-06 | 0,0E+00 | 0,0E+00 | -1,1E-06 |
| ADP-fossil* | MJ | 2,7E+02 | 2,6E+01 | 1,9E+01 | 0,0E+00 | 1,5E+01 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 6,5E+00 | 0,0E+00 | 0,0E+00 | -5,0E+00 |
| WDP* | m ³ | 2,5E+00 | 1,0E-01 | 1,3E+00 | 0,0E+00 | 9,0E+01 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 2,6E-02 | 0,0E+00 | 0,0E+00 | -1,7E-04 |
| 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 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).

Note: Biogenic carbon in packaging is balanced in A1-A3.

** 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.*

Additional mandatory and voluntary impact category indicators

Results per m2 of countertop for a period of 50 years

| Indicator | Unit | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 | D |
|----------------------|---|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|
| GWP-GHG ¹ | kg CO ₂ eq. | 1,6E+01 | 1,8E+00 | 1,2E+00 | 0,0E+00 | 1,4E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 4,6E-01 | 0,0E+00 | 0,0E+00 | -4,1E-01 |
| PM | disease inc. | 8,0E-07 | 1,4E-07 | 4,0E-08 | 0,0E+00 | 1,1E-07 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 2,8E-08 | 0,0E+00 | 0,0E+00 | -3,7E-08 |
| IR ² | kBq U-235 eq | 6,4E-01 | 1,1E-02 | 3,4E-02 | 0,0E+00 | 8,0E-02 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 3,7E-03 | 0,0E+00 | 0,0E+00 | -2,8E-02 |
| ETP – FW* | CTUe | 1,7E+01 | 3,5E+00 | 4,9E+01 | 0,0E+00 | 2,0E+01 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 1,1E+00 | 0,0E+00 | 0,0E+00 | 1,3E+00 |
| HTP – C* | CTUh | 3,7E-09 | 3,1E-10 | 1,5E-09 | 0,0E+00 | 2,0E-09 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 8,1E-11 | 0,0E+00 | 0,0E+00 | -6,8E-10 |
| HTP – NC* | CTUh | 7,1E-08 | 1,6E-08 | 8,7E-09 | 0,0E+00 | 5,8E-08 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 4,0E-09 | 0,0E+00 | 0,0E+00 | -2,2E-09 |
| Land use, SQP* | Pt | 3,9E+01 | 1,6E+01 | 5,7E+00 | 0,0E+00 | 3,9E+01 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 3,1E+00 | 0,0E+00 | 0,0E+00 | -1,4E+01 |
| Acronyms | GWP-GHG: Global Warming Potential, Greenhouse Gases, PM: Particulate Matter, IRP: Ionizing Radiation - Human Health, ETP-FW: Ecotoxicity Potential – Freshwater, HTP-C: Human Toxicity Potential – Cancer, HTP-NC: Human Toxicity Potential – Non-Cancer, SQP: Soil Quality Potential Index | | | | | | | | | | | | | | | |

Disclaimer: The results of the impact categories land use, human toxicity (cancer), human toxicity, non-cancer and ecotoxicity (freshwater) 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.

** 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.*

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 CO₂ is set to zero.

² This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator.

Resource use indicators

Results per m2 of countertop for a period of 50 years

| Indicator | Unit | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 | D |
|-----------|--|---------|---------|----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|
| PERE | MJ | 6,1E+00 | 4,3E-01 | 1,8E+00 | 0,0E+00 | 2,2E+01 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 1,3E-01 | 0,0E+00 | 0,0E+00 | -3,6E+00 |
| PERM | MJ | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 |
| PERT | MJ | 6,1E+00 | 4,3E-01 | 1,8E+00 | 0,0E+00 | 2,2E+01 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 1,3E-01 | 0,0E+00 | 0,0E+00 | -3,6E+00 |
| PENRE | MJ | 2,9E+02 | 2,8E+01 | 2,0E+01 | 0,0E+00 | 1,6E+01 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 6,9E+00 | 0,0E+00 | 0,0E+00 | -5,2E+00 |
| PENRM | MJ | 7,0E-01 | 0,0E+00 | -7,0E-01 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 |
| PENRT | MJ | 2,9E+02 | 2,8E+01 | 1,9E+01 | 0,0E+00 | 1,6E+01 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 6,9E+00 | 0,0E+00 | 0,0E+00 | -5,2E+00 |
| SM | kg | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 |
| RSF | MJ | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 |
| NRSF | MJ | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 |
| FW | m³ | 1,1E-01 | 3,9E-03 | 5,0E-03 | 0,0E+00 | 2,5E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 0,0E+00 | 9,8E-04 | 0,0E+00 | 0,0E+00 | -4,7E-03 |
| 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 | | | | | | | | | | | | | | | |

Waste indicators

Results per m2 of countertop for a period of 50 years

| Indicator | Unit | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 | D |
|------------------------------|------|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Hazardous waste disposed | kg | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 |
| Non-hazardous waste disposed | kg | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 |
| Radioactive waste disposed | kg | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 |

Output flow indicators

| Results per m2 of countertop for a period of 50 years | | | | | | | | | | | | | | | | |
|---|------|-------|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Indicator | Unit | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 | D |
| Components for re-use | kg | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 |
| Material for recycling | kg | 3,5 | 0,0 | 0,26 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 27 | 0,0 | 0,0 |
| Materials for energy recovery | kg | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 |
| Exported energy, electricity | MJ | 0,0 | 0,0 | 0,16 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 |
| Exported energy, thermal | MJ | 0,0 | 0,0 | 0,38 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 |

Additional LCA results (other environmental performance results) of the product(s)

The deviation of the GWP-GHG value for A1-A3 relative the representative product for the different products included in this EPD can be seen in the table below.

| Product | Difference relative to representative product |
|--|---|
| Countertops (Norrvange natural, Marais natural, Azul Olive Natural, Azul Gray Natural) Representative product | 0% |
| Countertops (Norrvange Honed, Jura selected Honed, Azul Olive Honed, Azul Grey Honed, Stone selected Honed) | 0,4% |
| Countertops (Jura selected soft textured, Stone selected soft textured) | 0,04% |

The variation of the environmental impact indicators which differ more than 10% between any of the included products are declared below. Variation is calculated as the maximum deviation between any of the included products, using absolute values.

| Indicator | Variation between products (%) honed vs reference (A1-A3) |
|---|---|
| Climate change - Biogenic | 16,4% |
| Climate change - Land use and LU change | 48,9% |
| Land use | 17,0% |

ABBREVIATIONS

| Abbreviation | Definition |
|---|---|
| General Abbreviations | |
| EN | European Norm (Standard) |
| EPD | Environmental Product Declaration |
| EF | Environmental Footprint |
| GPI | General Programme Instructions |
| ISO | International Organization for Standardization |
| LCA | Life Cycle Assessment |
| PCR | Product Category Rules |
| c-PCR | Complementary Product Category Rules |
| CEN | European Committee for Standardization |
| CPC | Central product classification |
| GHG | Greenhouse Gas |
| PEF | Product Environmental Footprint |
| Environmental Impact Indicators (EN 15804) | |
| GHG | Greenhouse Gas |
| GWP | Global Warming Potential (kg CO ₂ eq.) |
| GWP-fossil | Global Warming Potential from fossil sources (kg CO ₂ eq.) |
| GWP-biogenic | Global Warming Potential from biogenic sources (kg CO ₂ eq.) |
| GWP-luluc | Global Warming Potential from land use and land use change (kg CO ₂ eq.) |
| GWP-total | Total Global Warming Potential (kg CO ₂ eq.) |
| GWP-GHG | Global Warming Potential for greenhouse gases (kg CO ₂ eq.) |
| ODP | Ozone Depletion Potential (kg CFC-11 eq.) |
| AP | Acidification Potential (mol H ⁺ eq.) |
| EP | Eutrophication Potential |
| EP-freshwater | Freshwater eutrophication potential (kg P eq.) |
| EP-marine | Marine eutrophication potential (kg N eq.) |
| EP-terrestrial | Terrestrial eutrophication potential (mol N eq.) |
| POCP | Photochemical Ozone Creation Potential (kg NMVOC eq.) |
| ADP | Abiotic Depletion Potential |
| ADP-minerals&metals | Abiotic depletion potential for non-fossil resources (kg Sb eq.) |
| ADP-fossil | Abiotic depletion potential for fossil resources (MJ) |
| WDP | Water Deprivation Potential (m ³) |
| Resource Use Indicators | |
| PERE | Renewable primary energy (excluding as raw materials) (MJ) |
| PERM | Renewable primary energy used as raw materials (MJ) |
| PERT | Total renewable primary energy (MJ) |
| PENRE | Non-renewable primary energy (excluding as raw materials) (MJ) |
| PENRM | Non-renewable primary energy used as raw materials (MJ) |
| PENRT | Total non-renewable primary energy (MJ) |
| SM | Use of secondary material (kg) |
| RSF | Use of renewable secondary fuels (MJ) |
| NRSF | Use of non-renewable secondary fuels (MJ) |
| FW | Use of net fresh water (m ³) |
| HW | Hazardous Waste (disposed) (kg) |
| NHW | Non-Hazardous Waste (disposed) (kg) |
| RW | Radioactive Waste (disposed) (kg) |
| Output Flow Indicators | |
| CFR | Components for Reuse (kg) |
| MR | Material for Recycling (kg) |
| MER | Materials for Energy Recovery (kg) |
| EEE | Exported Energy, Electricity (MJ) |
| EET | Exported Energy, Thermal (MJ) |
| Lifecycle Stages / Modules | |

| | |
|-----------------------------|--|
| A1 | Raw material supply |
| A2 | Transport |
| A3 | Manufacturing |
| A4 | Transport to site |
| A5 | Construction/Installation |
| B1 | Use |
| B2 | Maintenance |
| B3 | Repair |
| B4 | Replacement |
| B5 | Refurbishment |
| B6 | Operational energy use |
| B7 | Operational water use |
| C1 | Deconstruction/Demolition |
| C2 | Transport to waste processing |
| C3 | Waste processing |
| C4 | Disposal |
| D | Reuse-Recovery-Recycling potential |
| Other Relevant Terms | |
| SVHC | Substances of Very High Concern |
| EC No. | European Community Number |
| CAS No. | Chemical Abstracts Service Number |
| MJ | Megajoule |
| kg | Kilogram |
| m ³ | Cubic Meter |
| NMVOG | Non-Methane Volatile Organic Compounds |
| Sb eq. | Antimony Equivalents |
| P eq. | Phosphorus Equivalents |
| N eq. | Nitrogen Equivalents |
| CFC-11 eq. | Chlorofluorocarbon-11 Equivalents |
| CO ₂ eq. | Carbon Dioxide Equivalents |
| kg C | Kilograms of Carbon |
| kg CO ₂ eq. | Kilograms of Carbon Dioxide Equivalent |
| ND | Not Declared |

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VERSION HISTORY

Original Version of the EPD, 2025-12-11

