# Environmental Product Declaration

In accordance with ISO 14025 and EN 15804:2012+A2:2019 for

## Natural stone products of granite and limestone – English summary

from

## Naturstenskompaniet Sverige AB

| | |
|---|---|
| Programme: | The International EPD® System, www.environdec.com |
| Programme operator: | EPD International AB |
| EPD registration number: | S-P-04621 |
| Publication date: | 2021-09-27 |
| Valid until: | 2026-09-27 |

*En EPD ska tillhandahålla aktuell information och kan behöva uppdateras om produktionsförändringar sker. Den angivna giltighetstiden kräver att EPDn uppdateras på www.environdec.com om sådana förändringar sker*

# General information

## Programme information

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

| |
|---|
| CEN standard EN 15804 serves as the Core Product Category Rules (PCR), specifically EN 15804:2012+A2:2019 (henceforth EN 15804:A2) |
| Product category rules (PCR): PCR Construction Products (2019:14), version 1.1 |
| PCR review was conducted by: *Claudia A. Peña*. Contact info@environdec.com for more information |
| LCA-analysis conducted by *Marcus Eriksson, WSP* |
| Independent third-party verification of the declaration and data, according to ISO 14025:2006:<br><br>☐ EPD process certification ☒ EPD verification |
| Third party verifier: *Martin Erlandsson, IVL Svenska Miljöinstitutet*<br>Approved by: The International EPD® System |
| Procedure for follow-up of data during EPD validity involves third party verifier:<br><br>☐ Yes ☒ No |

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

EPDs within the same product category but from different programmes may not be comparable. EPDs of construction products may not be comparable if they do not comply with EN 15804. For further information about comparability, see EN 15804 and ISO 14025.

.

## Company information

**Owner of the EPD:**
Naturstenskompaniet Sverige AB

**Contact:**
Sven Jönsson

**Company description:**
Naturstenskompaniet Sverige AB (henceforth Naturstenskompaniet) produces and delivers natural stone products for construction projects, commercial as well as private. The company is part of a corporate group, Naturstenskompaniet International. Naturstenskompaniet produces stone products of various rock types, including granite, limestone, marble and schist, where raw stone blocks are cut into different shapes and surface treated with different methods. In this EPD, a selection of five specific granite and limestone products are analyzed.

Limestone is quarried in two sites on the island of Öland, Sweden, operated by Naturstenskompaniet, and treated in a nearby factory in Sandvik. Granite products are manufactured in two factories in Skåne, Sweden. The granite rock is quarried by the sister company Scandinavian Stone.

**Production sites:**
The products included in this EPD are manufactured in three factories.

- Högsma; Skåne
- Bokalyckan, Skåne
- Sandvik, Öland

For more information, visit www.naturstenskompaniet.se

## Product information

**Products:**
Granite products:

- Split surface paving stone
- Split surface granite wall
- Flamed or bush hammered granite slab

Limestone products:

- Flamed or planed limestone slab
- Honed or brushed limestone floor tile

The difference in energy and material use between surface treatment methods is minimal, often the same machinery performs the treatments but with different nozzles. Each of the products defined with two treatment methods above are therefore treated as one average product, covering both treatment methods.

**Product descriptions:**

**Split surface granite walls** are used for various outdoor applications, including as supporting walls to enable variations in ground elevation and as a barrier wall to define different outdoor spaces. The granite walls have a very long technical life, which is determined in practice by changes in the cityscape and remodeling of outdoor areas.

Figure 1. Split surface granite walls

**Split surface granite paving stone** is used for outdoor applications on streets and squares. The technical lifetime is also very long and determined by changes to the cityscape. During its use, the paving stones are slowly honed to become soft-edged and smooth, making them more attractive over time.

For this reason, used paving stones are typically removed and replaced somewhere else when asphalt or other surface structures are to be implemented. Typically, a square is repaved every 30 years, and around 98 % of the paving stones can be replaced somewhere else.

Figure 2. Split surface granite paving stone

**Flamed or bush hammered granite slabs** can endure heavy wear and tear, and are used as ground material for outdoor environments, such as streets or squares. Typical thickness is approximately 30 mm. Again, the technical lifetime is typically limited by design changes to streets and squares. Typically, around 80 % of the slabs can be reused when removed.

**Honed or brushed limestone floor tile** is used for indoor purposes in both public and private settings. The lstone tiles can resist wear and tear very well, and there are examples of limestone in churches that have endured for 500 years. Practically, the lifetime is decided by the lifetime of the buildings in which they are placed.

Figure 3. **Flamed granite slabs**

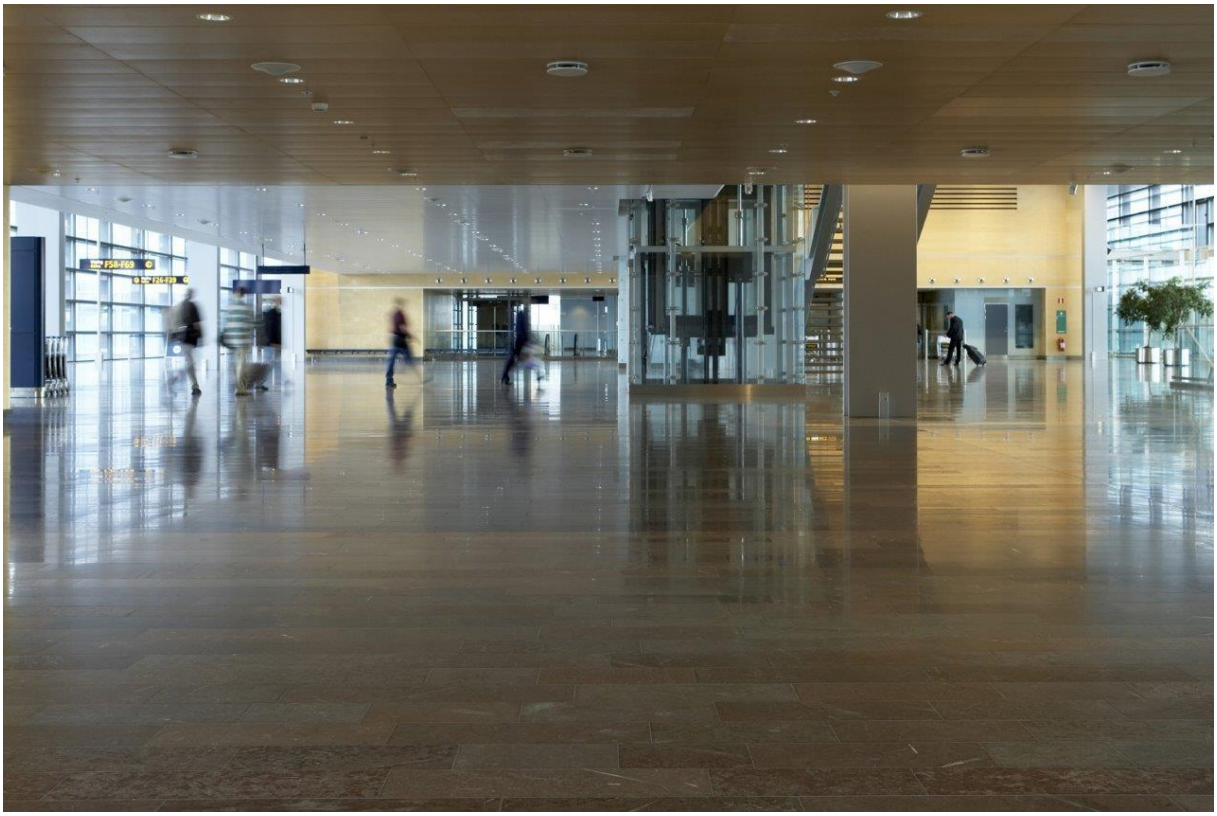


Figure 4. **Honed limestone floor tile**

**Flamed or planed limestone slab** is used for outdoor ground applications. The typical thickness is 40 mm. The limestone slabs resist wear and tear well but have low resistance to salt used for deicing why it is typically used for low traffic and private areas which do not require deicing.

The lifetime for limestone slabs is similar to the other products and is limited by changes to the cityscape.

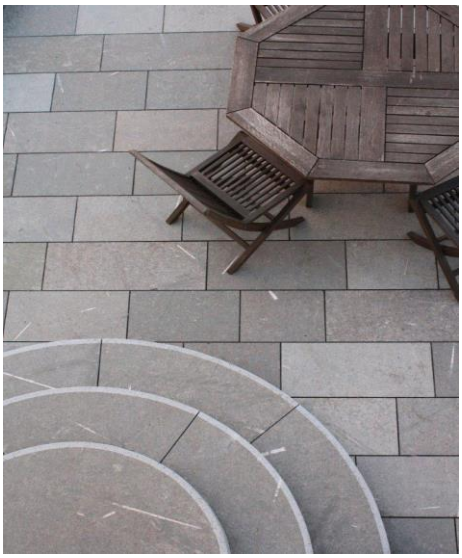


Figure 5. **Flamed limestone slab**

Tabell 1. Technical data

| Technical data | Split surface granite walls | Split surface granite paving stone | Flamed or bush hammered granite slabs | Flamed or planed limestone slab | Honed or brushed limestone floor tile |
|---|---|---|---|---|---|
| **Dimensions** | Different dimensions depending on application | Within 8-11 cm on all sides | Varying dimensions. Typical width and thickness: 300 mm x 40 mm. | Varying dimensions. Typical width and thickness: 300 mm x 30 mm | Varying dimensions. Typical width and thickness: 300 mm x 20 mm |
| **Density** | Ca 2,7 ton/$m^3$ | Ca 2,7 ton/$m^3$ | Ca 2,7 ton/$m^3$ | Ca 2,7 ton/$m^3$ | Ca 2,7 ton/$m^3$ |
| **Technical standard** | Not applicable | SS-EN 1342 | SS-EN 1341 | SS-EN 1341 | SS-EN 12057, SS-EN 12058 |

**Product content:**

All five products consist only of natural stone and contains no additives or similar. The products are manufactured in different shapes and sizes, within frames determined by technical standards.

All products apart from the Natural cleft granite paving stone are delivered to customers on standardized wooden EUR-pallets, which are part of a circular market. The stone is attached to the pallets by plastic straps.

Tabell 2. Product content

| Content | Split surface granite walls | | Split surface granite paving stone | | Flamed or bush hammered granite slabs | | Flamed or planed limestone slab | | Honed or brushed limestone floor tile | |
|---|---|---|---|---|---|---|---|---|---|---|
| | kg | % | kg | % | Kg | % | kg | % | kg | % |
| **Natural stone** | 1 000 | 98,1 % | 1 000 | 100 % | 1 000 | 98,7 % | 1 000 | 98,1 % | 1 000 | 98,1 % |
| **EUR-pallet** | 19,25 | 1,89 % | - | - | 12,5 | 1,29 % | 19,25 | 1,89 % | 19,25 | 1,89 % |
| **Plastic** | 0,62 | 0,001% | - | - | 0,62 | 0,001% | 0,62 | 0,001% | 0,62 | 0,001% |
| **TOTAL incl. packaging** | **1 019,9** | **100 %** | **1 000** | **100 %** | **1 013,1** | **100 %** | **1 019,9** | **100 %** | **1 019,9** | **100 %** |
| **TOTAL excl. packaging** | **1 000** | | **1 000** | | **1 000** | | **1 000** | | **1 000** | |

None of the products contain dangerous substances (SVHC), as defined by the European Chemicals Agency, that make up more than 0,1 % of the product weight. The stone products contain no biogenic carbon. The EUR-pallets are made of wood and thus contain biogenic carbon, but the pallet weight per ton product is less than 5 %, meaning that the biogenic carbon is not described in accordance with EN 15804:2012+A2:2019.

## LCA information

**Declared unit:**

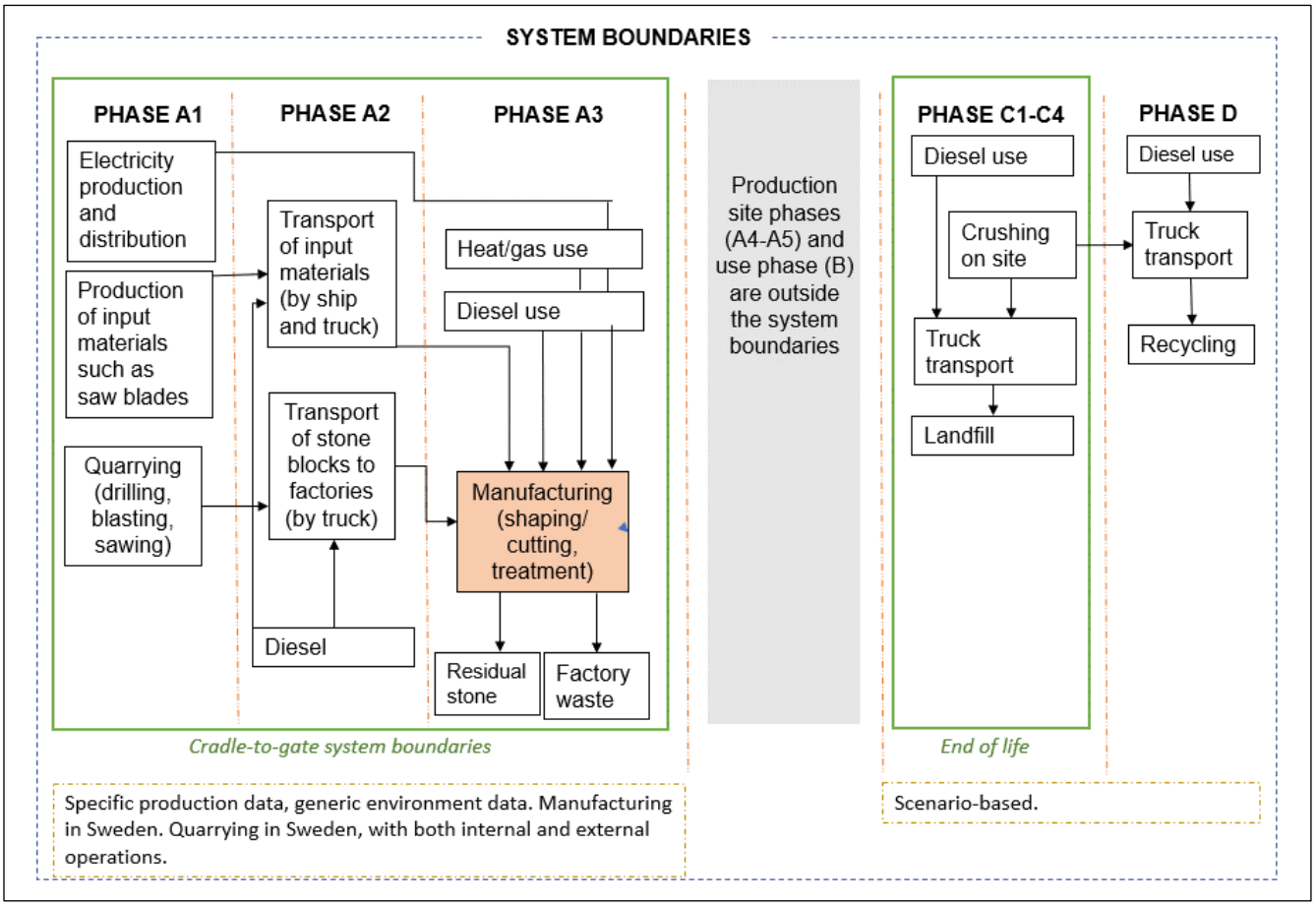
Declared unit is 1 ton natural stone product.

**System boundaries and cut-off:**

The system boundaries are *cradle-to-gate (A1-A3) with modules C1-C4 and D.* The construction site phase (A4-A5) and use stages (B) are not associated with significant energy or resource use and are excluded. All known materials have been included. According to EN 15804:A2, the manufacturing of machinery has been excluded as it falls under the cut-off. More than 95 % of all inflows per module (mass and energy) are estimated to be included in the inventory, which is required by EN 15804:A2.

The limestone products are manufactured in 1 factory on Öland, Sweden, and the results are thus specific to that factory. The granite products are produced in 1 of 2 factories in Skåne, and the results are thus factory-specific too. All input data regarding energy and resource use represent average annual data between 2018-2020.

A separate LCA has been conducted of the process of quarrying granite and limestone in the quarries operated by Naturstenskompaniet and Scandinavian Stone. This LCA-data is thus specific. All other LCA-data are generic from the Ecoinvent database.




## C+D End of life

End of life consists of crushing of the stone products and recycling them for use as filling material in construction projects. In practice, this occurs whenever there is demand relatively close-by, as it is economically beneficial compared to other end uses. However, demand is not always sufficient. On average, 75 % of the crushed stone is thus assumed to be reused, and 25 % is assumed to be transported to landfill to due to low demand. This is reflected in the end-of-life scenario. In the D-module, the benefits of recycled crushed stone as filling material compared to producing and using virgin crushed rock is shown.

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

| | 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 | ND | ND | ND | ND | ND | ND | ND | ND | ND | X | X | X | X | X |
| Geography | SE, EU, Glo | SE | SE | - | - | - | - | - | - | - | - | - | SE, NO | SE, NO | SE, NO | SE, NO | SE, NO |
| Specific data used | Between 22-35% of GWP-GHG comes from specific LCA-data, depending on product | | | | | - | - | - | - | - | - | - | - | - | - | - | - |
| Variation – products | Not relevant, each product declared separately | | | | | - | - | - | - | - | - | - | - | - | - | - | - |
| Variation – sites | GWP-GHG from factories (A3) varies as follows (kg CO2e/ton product)<br>Sandvik: 8,12E+01<br>Bokalyckan: 4,22E+01<br>Högsma: 3,72E+01 | | | | | - | - | - | - | - | - | - | - | - | - | - | - |

# Environmental Information

## Potential environmental impact – mandatory indicators according to EN 15804

| SPLIT SURFACE GRANITE WALLS (ton) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Environmental impact** | | **Production** | | | | **End-of-life** | | | | |
| **Impact categories** | **Unit** | **A1** | **A2** | **A3** | **A1-A3** | **C1** | **C2** | **C3** | **C4** | **D** |
| Climate change - Fossil | kg CO2 eq | 2,99E+01 | 1,81E+00 | 4,16E+01 | **7,33E+01** | 3,95E+00 | 5,08E+00 | 0,00E+00 | 2,62E+00 | -1,65E+00 |
| Climate change - Biogenic | kg CO2 eq | 2,03E+00 | 3,80E-03 | 1,56E+00 | **3,59E+00** | 3,12E-03 | 1,23E-02 | 0,00E+00 | 2,52E-02 | -2,07E-02 |
| Climate change - Land use and LU change | kg CO2 eq | 3,12E-01 | 5,05E-04 | 5,84E-03 | **3,19E-01** | 3,14E-04 | 1,74E-03 | 0,00E+00 | 1,14E-03 | -6,08E-04 |
| Climate change - total | kg CO2 eq | 3,22E+01 | 1,81E+00 | 4,32E+01 | **7,72E+01** | 3,95E+00 | 5,10E+00 | 0,00E+00 | 2,65E+00 | -1,67E+00 |
| Ozone depletion | kg CFC11 eq | 5,94E-06 | 4,25E-07 | 8,20E-06 | **1,46E-05** | 8,52E-07 | 1,16E-06 | 0,00E+00 | 8,12E-07 | -2,99E-07 |
| Acidification | mol H+ eq | 2,89E-01 | 7,50E-03 | 3,97E-01 | **6,93E-01** | 4,12E-02 | 1,41E-02 | 0,00E+00 | 2,21E-02 | -3,95E-02 |
| Eutrophication, freshwater | kg P eq | 2,17E-03 | 1,18E-04 | 1,93E-03 | **4,22E-03** | 1,19E-04 | 3,47E-04 | 0,00E+00 | 7,72E-04 | -1,47E-04 |
| Eutrophication, marine | kg N eq | 1,25E-01 | 2,31E-03 | 1,73E-01 | **3,00E-01** | 1,83E-02 | 2,95E-03 | 0,00E+00 | 7,68E-03 | -1,39E-02 |
| Eutrophication, terrestrial | mol N eq | 1,36E+00 | 2,53E-02 | 1,89E+00 | **3,28E+00** | 2,00E-01 | 3,20E-02 | 0,00E+00 | 8,36E-02 | -1,96E-01 |
| Photochemical ozone formation | kg NMVOC eq | 3,72E-01 | 8,12E-03 | 5,22E-01 | **9,02E-01** | 5,50E-02 | 1,23E-02 | 0,00E+00 | 2,41E-02 | -4,13E-02 |
| Resource use, minerals and metals | kg Sb eq | 9,39E-05 | 4,25E-06 | 2,83E-05 | **1,26E-04** | 1,60E-06 | 1,87E-05 | 0,00E+00 | 8,60E-06 | -8,65E-06 |
| Resource use, fossils | MJ | 9,26E+02 | 2,82E+01 | 5,74E+02 | **1,53E+03** | 5,43E+01 | 7,71E+01 | 0,00E+00 | 6,17E+01 | -2,19E+01 |
| Water deprivation potential | m3 depriv. | 7,54E+00 | 9,31E-02 | 2,60E+00 | **1,02E+01** | 7,84E-02 | 2,23E-01 | 0,00E+00 | 2,68E+00 | -2,26E-01 |

** 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.*

| SPLIT SURFACE GRANITE PAVING STONE (TON) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Environmental impact** | | **Production** | | | | **End-of-life** | | | | |
| **Impact categories** | **Unit** | **A1** | **A2** | **A3** | **A1-A3** | **C1** | **C2** | **C3** | **C4** | **D** |
| Climate change - Fossil | kg CO2 eq | 2,94E+01 | 1,81E+00 | 3,93E+01 | **7,05E+01** | 3,95E+00 | 5,08E+00 | 0,00E+00 | 2,62E+00 | -1,65E+00 |
| Climate change - Biogenic | kg CO2 eq | 1,66E+00 | 3,80E-03 | 3,31E+00 | **4,97E+00** | 3,12E-03 | 1,23E-02 | 0,00E+00 | 2,52E-02 | -2,07E-02 |
| Climate change - Land use and LU change | kg CO2 eq | 2,53E-01 | 5,05E-04 | 2,94E-03 | **2,57E-01** | 3,14E-04 | 1,74E-03 | 0,00E+00 | 1,14E-03 | -6,08E-04 |
| Climate change - total | kg CO2 eq | 3,13E+01 | 1,81E+00 | 4,27E+01 | **7,58E+01** | 3,95E+00 | 5,10E+00 | 0,00E+00 | 2,65E+00 | -1,67E+00 |
| Ozone depletion | kg CFC11 eq | 6,00E-06 | 4,25E-07 | 8,10E-06 | **1,45E-05** | 8,52E-07 | 1,16E-06 | 0,00E+00 | 8,12E-07 | -2,99E-07 |
| Acidification | mol H+ eq | 2,87E-01 | 7,50E-03 | 3,86E-01 | **6,81E-01** | 4,12E-02 | 1,41E-02 | 0,00E+00 | 2,21E-02 | -3,95E-02 |
| Eutrophication, freshwater | kg P eq | 1,98E-03 | 1,18E-04 | 1,29E-03 | **3,39E-03** | 1,19E-04 | 3,47E-04 | 0,00E+00 | 7,72E-04 | -1,47E-04 |
| Eutrophication, marine | kg N eq | 1,24E-01 | 2,31E-03 | 1,71E-01 | **2,97E-01** | 1,83E-02 | 2,95E-03 | 0,00E+00 | 7,68E-03 | -1,39E-02 |
| Eutrophication, terrestrial | mol N eq | 1,35E+00 | 2,53E-02 | 1,87E+00 | **3,24E+00** | 2,00E-01 | 3,20E-02 | 0,00E+00 | 8,36E-02 | -1,96E-01 |
| Photochemical ozone formation | kg NMVOC eq | 3,72E-01 | 8,12E-03 | 5,13E-01 | **8,92E-01** | 5,50E-02 | 1,23E-02 | 0,00E+00 | 2,41E-02 | -4,13E-02 |
| Resource use, minerals and metals | kg Sb eq | 8,19E-05 | 4,25E-06 | 1,54E-05 | **1,02E-04** | 1,60E-06 | 1,87E-05 | 0,00E+00 | 8,60E-06 | -8,65E-06 |
| Resource use, fossils | MJ | 8,15E+02 | 2,82E+01 | 5,16E+02 | **1,36E+03** | 5,43E+01 | 7,71E+01 | 0,00E+00 | 6,17E+01 | -2,19E+01 |
| Water deprivation potential | m3 depriv. | 6,13E+00 | 9,31E-02 | 9,76E-01 | **7,20E+00** | 7,84E-02 | 2,23E-01 | 0,00E+00 | 2,68E+00 | -2,26E-01 |

** 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.*

| FLAMED OR BUSH HAMMERED GRANITE SLABS (ton) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Environmental impact** | | **Production** | | | | **End-of-life** | | | | |
| **Impact categories** | **Unit** | **A1** | **A2** | **A3** | **A1-A3** | **C1** | **C2** | **C3** | **C4** | **D** |
| Climate change - Fossil | kg CO2 eq | 5,38E+01 | 1,81E+00 | 3,02E+01 | **8,58E+01** | 3,95E+00 | 5,08E+00 | 0,00E+00 | 2,62E+00 | -1,65E+00 |
| Climate change - Biogenic | kg CO2 eq | 5,37E+00 | 3,80E-03 | 2,40E-02 | **5,40E+00** | 3,12E-03 | 1,23E-02 | 0,00E+00 | 2,52E-02 | -2,07E-02 |
| Climate change - Land use and LU change | kg CO2 eq | 8,16E-01 | 5,05E-04 | 4,54E-03 | **8,21E-01** | 3,14E-04 | 1,74E-03 | 0,00E+00 | 1,14E-03 | -6,08E-04 |
| Climate change - total | kg CO2 eq | 6,00E+01 | 1,81E+00 | 3,03E+01 | **9,20E+01** | 3,95E+00 | 5,10E+00 | 0,00E+00 | 2,65E+00 | -1,67E+00 |
| Ozone depletion | kg CFC11 eq | 8,95E-06 | 4,25E-07 | 5,97E-06 | **1,53E-05** | 8,52E-07 | 1,16E-06 | 0,00E+00 | 8,12E-07 | -2,99E-07 |
| Acidification | mol H+ eq | 3,91E-01 | 7,50E-03 | 2,91E-01 | **6,90E-01** | 4,12E-02 | 1,41E-02 | 0,00E+00 | 2,21E-02 | -3,95E-02 |
| Eutrophication, freshwater | kg P eq | 6,98E-03 | 1,18E-04 | 1,49E-03 | **8,59E-03** | 1,19E-04 | 3,47E-04 | 0,00E+00 | 7,72E-04 | -1,47E-04 |
| Eutrophication, marine | kg N eq | 1,51E-01 | 2,31E-03 | 1,26E-01 | **2,79E-01** | 1,83E-02 | 2,95E-03 | 0,00E+00 | 7,68E-03 | -1,39E-02 |
| Eutrophication, terrestrial | mol N eq | 1,63E+00 | 2,53E-02 | 1,38E+00 | **3,03E+00** | 2,00E-01 | 3,20E-02 | 0,00E+00 | 8,36E-02 | -1,96E-01 |
| Photochemical ozone formation | kg NMVOC eq | 4,50E-01 | 8,12E-03 | 3,82E-01 | **8,40E-01** | 5,50E-02 | 1,23E-02 | 0,00E+00 | 2,41E-02 | -4,13E-02 |
| Resource use, minerals and metals | kg Sb eq | 4,62E-04 | 4,25E-06 | 2,34E-05 | **4,90E-04** | 1,60E-06 | 1,87E-05 | 0,00E+00 | 8,60E-06 | -8,65E-06 |
| Resource use, fossils | MJ | 2,03E+03 | 2,82E+01 | 4,31E+02 | **2,49E+03** | 5,43E+01 | 7,71E+01 | 0,00E+00 | 6,17E+01 | -2,19E+01 |
| Water deprivation potential | m3 depriv. | 2,07E+01 | 9,31E-02 | 2,14E+00 | **2,29E+01** | 7,84E-02 | 2,23E-01 | 0,00E+00 | 2,68E+00 | -2,26E-01 |

** 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.*

| FLAMED OR PLANED LIMESTONE SLAB (ton) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Environmental impact** | | **Production** | | | | **End-of-life** | | | | |
| **Impact categories** | **Unit** | **A1** | **A2** | **A3** | **A1-A3** | **C1** | **C2** | **C3** | **C4** | **D** |
| Climate change - Fossil | kg CO2 eq | 4,75E+01 | 9,05E-01 | 6,16E+01 | **1,10E+02** | 3,95E+00 | 5,08E+00 | 0,00E+00 | 2,62E+00 | -1,65E+00 |
| Climate change - Biogenic | kg CO2 eq | 9,72E+00 | 1,90E-03 | -1,57E+00 | **8,14E+00** | 3,12E-03 | 1,23E-02 | 0,00E+00 | 2,52E-02 | -2,07E-02 |
| Climate change - Land use and LU change | kg CO2 eq | 1,53E+00 | 2,52E-04 | 7,46E-03 | **1,54E+00** | 3,14E-04 | 1,74E-03 | 0,00E+00 | 1,14E-03 | -6,08E-04 |
| Climate change - total | kg CO2 eq | 5,88E+01 | 9,07E-01 | 6,00E+01 | **1,20E+02** | 3,95E+00 | 5,10E+00 | 0,00E+00 | 2,65E+00 | -1,67E+00 |
| Ozone depletion | kg CFC11 eq | 7,22E-06 | 2,13E-07 | 1,27E-05 | **2,02E-05** | 8,52E-07 | 1,16E-06 | 0,00E+00 | 8,12E-07 | -2,99E-07 |
| Acidification | mol H+ eq | 3,87E-01 | 3,75E-03 | 6,10E-01 | **1,00E+00** | 4,12E-02 | 1,41E-02 | 0,00E+00 | 2,21E-02 | -3,95E-02 |
| Eutrophication, freshwater | kg P eq | 8,15E-03 | 5,89E-05 | 2,50E-03 | **1,07E-02** | 1,19E-04 | 3,47E-04 | 0,00E+00 | 7,72E-04 | -1,47E-04 |
| Eutrophication, marine | kg N eq | 1,60E-01 | 1,16E-03 | 2,66E-01 | **4,28E-01** | 1,83E-02 | 2,95E-03 | 0,00E+00 | 7,68E-03 | -1,39E-02 |
| Eutrophication, terrestrial | mol N eq | 1,71E+00 | 1,26E-02 | 2,92E+00 | **4,64E+00** | 2,00E-01 | 3,20E-02 | 0,00E+00 | 8,36E-02 | -1,96E-01 |
| Photochemical ozone formation | kg NMVOC eq | 4,64E-01 | 4,06E-03 | 8,05E-01 | **1,27E+00** | 5,50E-02 | 1,23E-02 | 0,00E+00 | 2,41E-02 | -4,13E-02 |
| Resource use, minerals and metals | kg Sb eq | 4,81E-04 | 2,12E-06 | 3,71E-05 | **5,21E-04** | 1,60E-06 | 1,87E-05 | 0,00E+00 | 8,60E-06 | -8,65E-06 |
| Resource use, fossils | MJ | 3,10E+03 | 1,41E+01 | 8,64E+02 | **3,98E+03** | 5,43E+01 | 7,71E+01 | 0,00E+00 | 6,17E+01 | -2,19E+01 |
| Water deprivation potential | m3 depriv. | 3,50E+01 | 4,66E-02 | 2,65E+00 | **3,77E+01** | 7,84E-02 | 2,23E-01 | 0,00E+00 | 2,68E+00 | -2,26E-01 |

** 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.*

| HONED OR BRUSHED LIMESTONE FLOOR TILE (ton) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Environmental impact** | | **Production** | | | | **End-of-life** | | | | |
| **Impact categories** | **Unit** | **A1** | **A2** | **A3** | **A1-A3** | **C1** | **C2** | **C3** | **C4** | **D** |
| Climate change - Fossil | kg CO2 eq | 4,86E+01 | 9,05E-01 | 6,95E+01 | **1,19E+02** | 3,95E+00 | 5,08E+00 | 0,00E+00 | 2,62E+00 | -1,65E+00 |
| Climate change - Biogenic | kg CO2 eq | 1,04E+01 | 1,90E-03 | -1,57E+00 | **8,83E+00** | 3,12E-03 | 1,23E-02 | 0,00E+00 | 2,52E-02 | -2,07E-02 |
| Climate change - Land use and LU change | kg CO2 eq | 1,64E+00 | 2,52E-04 | 8,07E-03 | **1,65E+00** | 3,14E-04 | 1,74E-03 | 0,00E+00 | 1,14E-03 | -6,08E-04 |
| Climate change - total | kg CO2 eq | 6,07E+01 | 9,07E-01 | 6,79E+01 | **1,30E+02** | 3,95E+00 | 5,10E+00 | 0,00E+00 | 2,65E+00 | -1,67E+00 |
| Ozone depletion | kg CFC11 eq | 7,28E-06 | 2,13E-07 | 1,45E-05 | **2,20E-05** | 8,52E-07 | 1,16E-06 | 0,00E+00 | 8,12E-07 | -2,99E-07 |
| Acidification | mol H+ eq | 3,92E-01 | 3,75E-03 | 6,92E-01 | **1,09E+00** | 4,12E-02 | 1,41E-02 | 0,00E+00 | 2,21E-02 | -3,95E-02 |
| Eutrophication, freshwater | kg P eq | 8,58E-03 | 5,89E-05 | 2,73E-03 | **1,14E-02** | 1,19E-04 | 3,47E-04 | 0,00E+00 | 7,72E-04 | -1,47E-04 |
| Eutrophication, marine | kg N eq | 1,62E-01 | 1,16E-03 | 3,03E-01 | **4,66E-01** | 1,83E-02 | 2,95E-03 | 0,00E+00 | 7,68E-03 | -1,39E-02 |
| Eutrophication, terrestrial | mol N eq | 1,73E+00 | 1,26E-02 | 3,31E+00 | **5,05E+00** | 2,00E-01 | 3,20E-02 | 0,00E+00 | 8,36E-02 | -1,96E-01 |
| Photochemical ozone formation | kg NMVOC eq | 4,68E-01 | 4,06E-03 | 9,14E-01 | **1,39E+00** | 5,50E-02 | 1,23E-02 | 0,00E+00 | 2,41E-02 | -4,13E-02 |
| Resource use, minerals and metals | kg Sb eq | 5,08E-04 | 2,12E-06 | 4,02E-05 | **5,51E-04** | 1,60E-06 | 1,87E-05 | 0,00E+00 | 8,60E-06 | -8,65E-06 |
| Resource use, fossils | MJ | 3,29E+03 | 1,41E+01 | 9,73E+02 | **4,28E+03** | 5,43E+01 | 7,71E+01 | 0,00E+00 | 6,17E+01 | -2,19E+01 |
| Water deprivation potential | m3 depriv. | 3,74E+01 | 4,66E-02 | 2,88E+00 | **4,03E+01** | 7,84E-02 | 2,23E-01 | 0,00E+00 | 2,68E+00 | -2,26E-01 |

** 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.*

## Potential environmental impact – additional mandatory and voluntary indicators

| GWP-GHG[1] per ton | Unit | A1 | A2 | A3 | A1-A3 | C1 | C2 | C3 | C4 | D |
|---|---|---|---|---|---|---|---|---|---|---|
| Split surface granite walls | kg $CO_2$ eq. | 3,20E+01 | 1,79E+00 | 3,90E+01 | **7,29E+01** | 3,91E+00 | 4,03E+00 | 0,00E+00 | 1,03E+01 | -2,16E+00 |
| Split surface granite paving stone | kg $CO_2$ eq. | 2,93E+01 | 1,79E+00 | 3,89E+01 | **7,00E+01** | 3,91E+00 | 4,03E+00 | 0,00E+00 | 1,03E+01 | -2,16E+00 |
| Flamed or bush hammered granite slabs | kg $CO_2$ eq. | 5,39E+01 | 1,79E+00 | 2,98E+01 | **8,55E+01** | 3,91E+00 | 4,03E+00 | 0,00E+00 | 1,03E+01 | -2,16E+00 |
| Flamed or planed limestone slab | kg $CO_2$ eq. | 4,85E+01 | 8,97E-01 | 6,09E+01 | **1,10E+02** | 3,91E+00 | 4,03E+00 | 0,00E+00 | 1,03E+01 | -2,16E+00 |
| Honed or brushed limestone floor tile | kg $CO_2$ eq. | 4,97E+01 | 8,97E-01 | 6,87E+01 | **1,19E+02** | 3,91E+00 | 4,03E+00 | 0,00E+00 | 1,03E+01 | -2,16E+00 |

[1] The indicator includes all greenhouse gases included in GWP-total but excludes biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. This indicator is thus equal to the GWP indicator originally defined in EN 15804:2012+A1:2013.

## Resource use

| SPLIT SURFACE GRANITE WALLS (ton) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Resource use** | | **Production** | | | | **End-of-life** | | | | |
| **Impact categories** | **Unit** | **A1** | **A2** | **A3** | **A1-A3** | **C1** | **C2** | **C3** | **C4** | **D** |
| PERE | MJ | 2,53E+02 | 3,44E-01 | 2,58E+01 | **2,79E+02** | 2,11E-01 | 1,05E+00 | 0,00E+00 | 1,02E+00 | -3,05E+00 |
| PERM | MJ | 3,32E+02 | 0,00E+00 | 0,00E+00 | **3,32E+02** | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| PERT | MJ | 5,85E+02 | 3,44E-01 | 2,58E+01 | **6,11E+02** | 2,11E-01 | 1,05E+00 | 0,00E+00 | 1,02E+00 | -3,05E+00 |
| PENRE | MJ | 9,51E+02 | 3,00E+01 | 6,10E+02 | **1,59E+03** | 4,32E+01 | 8,18E+01 | 0,00E+00 | 6,56E+01 | -2,32E+01 |
| PENRM | MJ | 0,00E+00 | 0,00E+00 | 0,00E+00 | **0,00E+00** | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| PENRT | MJ | 9,51E+02 | 3,00E+01 | 6,10E+02 | **1,59E+03** | 4,32E+01 | 8,18E+01 | 0,00E+00 | 6,56E+01 | -2,32E+01 |
| SM | Kg | | | | | | | | | |
| RSF | Mj | | | | | | | | | |
| NRSF | Mj | | | | | | | | | |
| FW | $M^3$ | 1,18E+00 | 6,44E-03 | 1,37E-01 | **1,32E+00** | 8,18E-02 | 2,24E-01 | 0,00E+00 | 2,68E+00 | -2,02E-01 |

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

| SPLIT SURFACE GRANITE PAVING STONE (TON) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Resource use** | | **Production** | | | | **End-of-life** | | | | |
| **Impact categories** | **Unit** | **A1** | **A2** | **A3** | **A1-A3** | **C1** | **C2** | **C3** | **C4** | **D** |
| PERE | MJ | 2,02E+02 | 3,44E-01 | 2,71E+00 | **2,05E+02** | 2,81E-02 | 7,58E-01 | 0,00E+00 | 1,02E+00 | 1,81E+00 |
| PERM | MJ | 2,16E+02 | 0,00E+00 | 0,00E+00 | **2,16E+02** | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| PERT | MJ | 4,18E+02 | 3,44E-01 | 2,71E+00 | **4,21E+02** | 2,81E-02 | 7,58E-01 | 0,00E+00 | 1,02E+00 | 1,81E+00 |
| PENRE | MJ | 8,38E+02 | 3,00E+01 | 5,48E+02 | **1,42E+03** | 5,77E+00 | 5,89E+01 | 0,00E+00 | 6,56E+01 | 1,30E+02 |
| PENRM | MJ | 0,00E+00 | 0,00E+00 | 0,00E+00 | **0,00E+00** | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| PENRT | MJ | 8,38E+02 | 3,00E+01 | 5,48E+02 | **1,42E+03** | 5,77E+00 | 5,89E+01 | 0,00E+00 | 6,56E+01 | 1,30E+02 |
| SM | Kg | | | | | | | | | |
| RSF | Mj | | | | | | | | | |
| NRSF | Mj | | | | | | | | | |
| FW | $M^3$ | 9,66E-01 | 6,44E-03 | 6,11E-02 | **1,03E+00** | 8,18E-02 | 2,24E-01 | 0,00E+00 | 2,68E+00 | -2,02E-01 |

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

| FLAMED OR BUSH HAMMERED GRANITE SLABS (ton) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Resource use** | | **Production** | | | | **End-of-life** | | | | |
| **Impact categories** | **Unit** | **A1** | **A2** | **A3** | **A1-A3** | **C1** | **C2** | **C3** | **C4** | **D** |
| PERE | MJ | 6,71E+02 | 3,44E-01 | 1,77E+01 | **6,89E+02** | 2,81E-02 | 7,58E-01 | 0,00E+00 | 1,02E+00 | 1,81E+00 |
| PERM | MJ | 2,16E+02 | 0,00E+00 | 0,00E+00 | **2,16E+02** | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| PERT | MJ | 8,87E+02 | 3,44E-01 | 1,77E+01 | **9,05E+02** | 2,81E-02 | 7,58E-01 | 0,00E+00 | 1,02E+00 | 1,81E+00 |
| PENRE | MJ | 2,07E+03 | 3,00E+01 | 4,59E+02 | **2,56E+03** | 5,77E+00 | 5,89E+01 | 0,00E+00 | 6,56E+01 | 1,30E+02 |
| PENRM | MJ | 0,00E+00 | 0,00E+00 | 0,00E+00 | **0,00E+00** | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| PENRT | MJ | 2,07E+03 | 3,00E+01 | 4,59E+02 | **2,56E+03** | 5,77E+00 | 5,89E+01 | 0,00E+00 | 6,56E+01 | 1,30E+02 |
| SM | Kg | | | | | | | | | |
| RSF | Mj | | | | | | | | | |
| NRSF | Mj | | | | | | | | | |
| FW | $M^3$ | 3,11E+00 | 6,44E-03 | 1,11E-01 | **3,23E+00** | 8,18E-02 | 2,24E-01 | 0,00E+00 | 2,68E+00 | -2,02E-01 |

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

| FLAMED OR PLANED LIMESTONE SLAB (ton) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Resource use** | | **Production** | | | | **End-of-life** | | | | |
| **Impact categories** | **Unit** | **A1** | **A2** | **A3** | **A1-A3** | **C1** | **C2** | **C3** | **C4** | **D** |
| PERE | MJ | 1,22E+03 | 1,72E-01 | 2,72E+01 | **1,25E+03** | 2,81E-02 | 7,58E-01 | 0,00E+00 | 1,02E+00 | 1,81E+00 |
| PERM | MJ | 2,16E+02 | 0,00E+00 | 0,00E+00 | **2,16E+02** | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| PERT | MJ | 1,44E+03 | 1,72E-01 | 2,72E+01 | **1,47E+03** | 2,81E-02 | 7,58E-01 | 0,00E+00 | 1,02E+00 | 1,81E+00 |
| PENRE | MJ | 3,14E+03 | 1,50E+01 | 9,18E+02 | **4,07E+03** | 5,77E+00 | 5,89E+01 | 0,00E+00 | 6,56E+01 | 1,30E+02 |
| PENRM | MJ | 0,00E+00 | 0,00E+00 | 0,00E+00 | **0,00E+00** | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| PENRT | MJ | 3,14E+03 | 1,50E+01 | 9,18E+02 | **4,07E+03** | 5,77E+00 | 5,89E+01 | 0,00E+00 | 6,56E+01 | 1,30E+02 |
| SM | Kg | | | | | | | | | |
| RSF | Mj | | | | | | | | | |
| NRSF | Mj | | | | | | | | | |
| FW | $M^3$ | 5,66E+00 | 3,22E-03 | 1,53E-01 | **5,82E+00** | 8,18E-02 | 2,24E-01 | 0,00E+00 | 2,68E+00 | -2,02E-01 |

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

| HONED OR BRUSHED LIMESTONE FLOOR TILE (ton) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Resource use** | | **Production** | | | | **End-of-life** | | | | |
| **Impact categories** | **Unit** | **A1** | **A2** | **A3** | **A1-A3** | **C1** | **C2** | **C3** | **C4** | **D** |
| PERE | MJ | 1,31E+03 | 1,72E-01 | 2,78E+01 | **1,34E+03** | 2,81E-02 | 7,58E-01 | 0,00E+00 | 1,02E+00 | 1,81E+00 |
| PERM | MJ | 2,16E+02 | 0,00E+00 | 0,00E+00 | **2,16E+02** | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| PERT | MJ | 1,53E+03 | 1,72E-01 | 2,78E+01 | **1,55E+03** | 2,81E-02 | 7,58E-01 | 0,00E+00 | 1,02E+00 | 1,81E+00 |
| PENRE | MJ | 3,33E+03 | 1,50E+01 | 1,03E+03 | **4,38E+03** | 5,77E+00 | 5,89E+01 | 0,00E+00 | 6,56E+01 | 1,30E+02 |
| PENRM | MJ | 0,00E+00 | 0,00E+00 | 0,00E+00 | **0,00E+00** | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| PENRT | MJ | 3,33E+03 | 1,50E+01 | 1,03E+03 | **4,38E+03** | 5,77E+00 | 5,89E+01 | 0,00E+00 | 6,56E+01 | 1,30E+02 |
| SM | Kg | | | | | | | | | |
| RSF | Mj | | | | | | | | | |
| NRSF | Mj | | | | | | | | | |
| FW | $M^3$ | 6,06E+00 | 3,22E-03 | 1,68E-01 | **6,23E+00** | 8,18E-02 | 2,24E-01 | 0,00E+00 | 2,68E+00 | -2,02E-01 |

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 and outflows

| SPLIT SURFACE GRANITE WALLS (ton) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Waste and outflows** | | **Production** | | | | **End-of-life** | | | | |
| **Impact categories** | **Unit** | **A1** | **A2** | **A3** | **A1-A3** | **C1** | **C2** | **C3** | **C4** | **D** |
| **Waste production**[2] | | | | | | | | | | |
| Hazardous waste disposed | kg | 0,00E+00 | 0,00E+00 | 0,00E+00 | **0,00E+00** | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Non-hazardous waste disposed | kg | 0,00E+00 | 0,00E+00 | 0,00E+00 | **0,00E+00** | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Radioactive waste disposed | kg | 0,00E+00 | 0,00E+00 | 0,00E+00 | **0,00E+00** | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| **Output flows** | | | | | | | | | | |
| Components for re-use | Kg | | | | | | | | | |
| Material for recycling | kg | | | | | | | 7,50E+02 | | |
| Materials for energy recovery | kg | | | | | | | | | |
| Exported energy, electricity | MJ | | | | | | | | | |
| Exported energy, thermal | MJ | | | | | | | | | |

[2] Note that all waste flows and their treatments in SimaPro are accounted for within the system boundaries, not outside, which is why all waste production categories are zero for all products

| SPLIT SURFACE GRANITE PAVING STONE (TON) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Waste and outflows** | | **Production** | | | | **End-of-life** | | | | |
| **Impact categories** | **Unit** | **A1** | **A2** | **A3** | **A1-A3** | **C1** | **C2** | **C3** | **C4** | **D** |
| **Waste production** | | | | | | | | | | |
| Hazardous waste disposed | kg | 0,00E+00 | 0,00E+00 | 0,00E+00 | **0,00E+00** | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Non-hazardous waste disposed | kg | 0,00E+00 | 0,00E+00 | 0,00E+00 | **0,00E+00** | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Radioactive waste disposed | kg | 0,00E+00 | 0,00E+00 | 0,00E+00 | **0,00E+00** | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| **Output flows** | | | | | | | | | | |
| Components for re-use | Kg | | | | | | | | | |
| Material for recycling | kg | | | | | | | 7,50E+02 | | |
| Materials for energy recovery | kg | | | | | | | | | |
| Exported energy, electricity | MJ | | | | | | | | | |
| Exported energy, thermal | MJ | | | | | | | | | |

| FLAMED OR BUSH HAMMERED GRANITE SLABS (ton) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Waste and outflows** | | **Production** | | | | **End-of-life** | | | | |
| **Impact categories** | **Unit** | **A1** | **A2** | **A3** | **A1-A3** | **C1** | **C2** | **C3** | **C4** | **D** |
| **Waste production** | | | | | | | | | | |
| Hazardous waste disposed | kg | 0,00E+00 | 0,00E+00 | 0,00E+00 | **0,00E+00** | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Non-hazardous waste disposed | kg | 0,00E+00 | 0,00E+00 | 0,00E+00 | **0,00E+00** | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Radioactive waste disposed | kg | 0,00E+00 | 0,00E+00 | 0,00E+00 | **0,00E+00** | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| **Output flows** | | | | | | | | | | |
| Components for re-use | Kg | | | | | | | | | |
| Material for recycling | kg | | | | | | | 7,50E+02 | | |
| Materials for energy recovery | kg | | | | | | | | | |
| Exported energy, electricity | MJ | | | | | | | | | |
| Exported energy, thermal | MJ | | | | | | | | | |

| FLAMED OR PLANED LIMESTONE SLAB (ton) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Waste and outflows** | | **Production** | | | | **End-of-life** | | | | |
| **Impact categories** | **Unit** | **A1** | **A2** | **A3** | **A1-A3** | **C1** | **C2** | **C3** | **C4** | **D** |
| **Waste production** | | | | | | | | | | |
| Hazardous waste disposed | kg | 0,00E+00 | 0,00E+00 | 0,00E+00 | **0,00E+00** | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Non-hazardous waste disposed | kg | 0,00E+00 | 0,00E+00 | 0,00E+00 | **0,00E+00** | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Radioactive waste disposed | kg | 0,00E+00 | 0,00E+00 | 0,00E+00 | **0,00E+00** | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| **Output flows** | | | | | | | | | | |
| Components for re-use | Kg | | | | | | | | | |
| Material for recycling | kg | | | | | | | 7,50E+02 | | |
| Materials for energy recovery | kg | | | | | | | | | |
| Exported energy, electricity | MJ | | | | | | | | | |
| Exported energy, thermal | MJ | | | | | | | | | |

| HONED OR BRUSHED LIMESTONE FLOOR TILE (ton) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Waste and outflows** | | **Production** | | | | **End-of-life** | | | | |
| **Impact categories** | **Unit** | **A1** | **A2** | **A3** | **A1-A3** | **C1** | **C2** | **C3** | **C4** | **D** |
| **Waste production** | | | | | | | | | | |
| Hazardous waste disposed | kg | 0,00E+00 | 0,00E+00 | 0,00E+00 | **0,00E+00** | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Non-hazardous waste disposed | kg | 0,00E+00 | 0,00E+00 | 0,00E+00 | **0,00E+00** | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Radioactive waste disposed | kg | 0,00E+00 | 0,00E+00 | 0,00E+00 | **0,00E+00** | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| **Output flows** | | | | | | | | | | |
| Components for re-use | Kg | | | | | | | | | |
| Material for recycling | kg | | | | | | | 7,50E+02 | | |
| Materials for energy recovery | kg | | | | | | | | | |
| Exported energy, electricity | MJ | | | | | | | | | |
| Exported energy, thermal | MJ | | | | | | | | | |

# References

General Programme Instructions of the International EPD® System. Version 3.01.

PCR Construction Products (2019:14), version 1.1

EN 15804:2012 + A2:2019 Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products

ISO 14025:2010 Environmental labels and declarations. Type III environmental declarations. Principles and procedures.

ISO 14044:2006 Environmental management. Life Cycle Assessment. Requirements and guidelines.

Martin Erlandsson och Daniel Pettersson, 2015. Klimatpåverkan för byggnader med olika energiprestanda. Underlagsrapport till kontrollstation 2015. För Energimyndigheten och Boverket. IVL rapport nr 5176.

EPD®

www.environdec.com