
# ENVIRONMENTAL PRODUCT DECLARATION

## IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

Clipsham Limestone - Block stone
Stamford Stone Company Ltd

**EPD HUB, HUB-3838**
Published on 19.08.2025, last updated on 19.08.2025, valid until 18.08.2030

Life Cycle Assessment study has been performed in accordance with the requirements of EN 15804, EPD Hub PCR version 1.2 (24 Mar 2025) and JRC characterization factors EF 3.1.

Created with One Click LCA

# GENERAL INFORMATION

## MANUFACTURER

| | |
|---|---|
| **Manufacturer** | Stamford Stone Company Ltd |
| **Address** | Swaddywell Quarry, Stamford Rd, Helpston, PE6 7EL |
| **Contact details** | info@stamfordstone.co.uk |
| **Website** | www.stamfordstone.co.uk |

## EPD STANDARDS, SCOPE AND VERIFICATION

| | |
|---|---|
| **Program operator** | EPD Hub, hub@epdhub.com |
| **Reference standard** | EN 15804+A2 and ISO 14025 |
| **PCR** | EPD Hub Core PCR Version 1.2, 24 Mar 2025 |
| **Sector** | Construction product |
| **Category of EPD** | Third party verified EPD |
| **Parent EPD number** | - |
| **Scope of the EPD** | Cradle to gate with options C1-C4, D |
| **EPD author** | Laura Green, Stamford Stone |
| **EPD verification** | Independent verification of this EPD and data, according to ISO 14025:<br>☐ Internal verification ☑ External verification |
| **EPD verifier** | Sarah Curpen, as an authorized verifier acting for EPD Hub Limited |

The manufacturer has the sole ownership, liability, and responsibility for the EPD. EPDs within the same product category but from different programs may not be comparable. EPDs of construction products may not be comparable if they do not comply with EN 15804 and if they are not compared in a building context.

## PRODUCT

| | |
|---|---|
| **Product name** | Clipsham Limestone - Raw Block stone |
| **Additional labels** | - |
| **Product reference** | Block stone |
| **Place of production** | Clipsham, Rutland |
| **Period for data** | Calendar year 2023 |
| **Averaging in EPD** | No averaging |
| **Variation in GWP-fossil for A1-A3** | - |

## ENVIRONMENTAL DATA SUMMARY

| | |
|---|---|
| **Declared unit** | 1 tonne |
| **Declared unit mass** | 1000 kg |
| **GWP-fossil, A1-A3 ($kgCO_2e$)** | 35.8 |
| **GWP-total, A1-A3 ($kgCO_2e$)** | 35.8 |
| **Secondary material, inputs (%)** | 0 |
| **Secondary material, outputs (%)** | 93.6 |
| **Total energy use, A1-A3 (kWh)** | 131 |
| **Net freshwater use, A1-A3 ($m^3$)** | 0.03 |

# PRODUCT AND MANUFACTURER

## ABOUT THE MANUFACTURER

Stamford Stone Company has been a leading provider of English limestone products to the construction industry for nearly three decades. Our clientele encompasses a wide range of entities, including stone masonry companies, self-builders, national house builders, and commercial contractors. As the owners/operators of the two Clipsham quarries in Lincolnshire, we have reserves that exceed 900 years at current extraction rates. We are dedicated to investing in and researching sustainable quarrying practices, which include comprehensive restoration plans designed to rehabilitate exhausted quarrying areas in partnership with Natural England. This commitment to investment and research permeates all our production facilities, allowing us, over the past 30 years, to supply natural stone building products to the UK construction sector in volumes and price points previously only attainable by manufacturers of man-made building products.

## PRODUCT DESCRIPTION

Clipsham limestone is a Jurassic oolitic limestone characterised by its exceptional durability and resistance to pollution, making it a preferred choice in construction and restoration projects. This sedimentary rock has been utilised for centuries predominantly along the Oolithic limestone belt, stretching from Lincolnshire to Oxford, and remains the most specified stone in the architecture of the prestigious Oxford and Cambridge colleges. Due to its aesthetic compatibility with many historic structures across England, Clipsham limestone is often selected for restoration endeavours. Notable restoration projects include significant national landmarks such as the Palace of Westminster and Windsor Castle. Geologically, Clipsham limestone is recognised as one of the hardest of the English Jurassic limestones. It is typically encountered in hues of light brown or cream, with varying inclusions of shell fragments and ooliths—microstructures composed of concentric layers of calcium carbonate. The lithology is largely derived from the skeletal remains of marine organisms, including molluscs, corals, and foraminifera, contributing to its overall composition and structural integrity.

Further information can be found at www.stamfordstone.co.uk.

## PRODUCT RAW MATERIAL MAIN COMPOSITION

| Raw material category | Amount, mass % | Material origin |
|---|---|---|
| Metals | - | - |
| Minerals | 100 | UK |
| Fossil materials | - | - |
| Bio-based materials | - | - |

## BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate:

| | |
|---|---|
| Biogenic carbon content in product, kg C | 0 |
| Biogenic carbon content in packaging, kg C | 0 |

## FUNCTIONAL UNIT AND SERVICE LIFE

| | |
|---|---|
| **Declared unit** | 1 tonne |
| **Mass per declared unit** | 1000 kg |
| **Functional unit** | - |
| **Reference service life** | - |

## SUBSTANCES, REACH - VERY HIGH CONCERN

There are no reach materials to be declared for this EPD.

# PRODUCT LIFE-CYCLE

## SYSTEM BOUNDARY

This EPD covers the life-cycle modules listed in the following table.

| Product stage | | | Assembly stage | | Use stage | | | | | | | End of life stage | | | | Beyond the system boundaries | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A1 | A2 | A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 | D | | |
| × | × | × | MND | MND | MND | MND | MND | MND | MND | MND | MND | × | × | × | × | × | | |
| Raw materials | Transport | Manufacturing | Transport | Assembly | Use | Maintenance | Repair | Replacement | Refurbishment | Operational energy use | Operational water use | Deconstruction/ demolition | Transport | Waste processing | Disposal | Reuse | Recovery | Recycling |

*Modules not declared = MND. Modules not relevant = MNR*

## MANUFACTURING AND PACKAGING (A1-A3)

The environmental impacts considered for the product stage cover the manufacturing of raw materials used in the production as well as packaging materials and other ancillary materials. Also, fuels used by machines, and handling of waste formed in the production processes at the manufacturing facilities are included in this stage. The study also considers the material losses occurring during the manufacturing processes as well as losses during electricity transmission.

The production process for raw material extraction is straightforward, primarily due to the oolitic limestone type, which can be extracted along the natural fissures of the stone using an excavator along the rock face, rather than through blasting. This operation is conducted in an open-cast quarry rather than a mine. After extraction, the block stone is transported by dumper to the storage area, where it is graded before being sent for further processing or sold in its natural form.

## TRANSPORT AND INSTALLATION (A4-A5)

Transport and installation are not included within the scope of this EPD.

## PRODUCT USE AND MAINTENANCE (B1-B7)

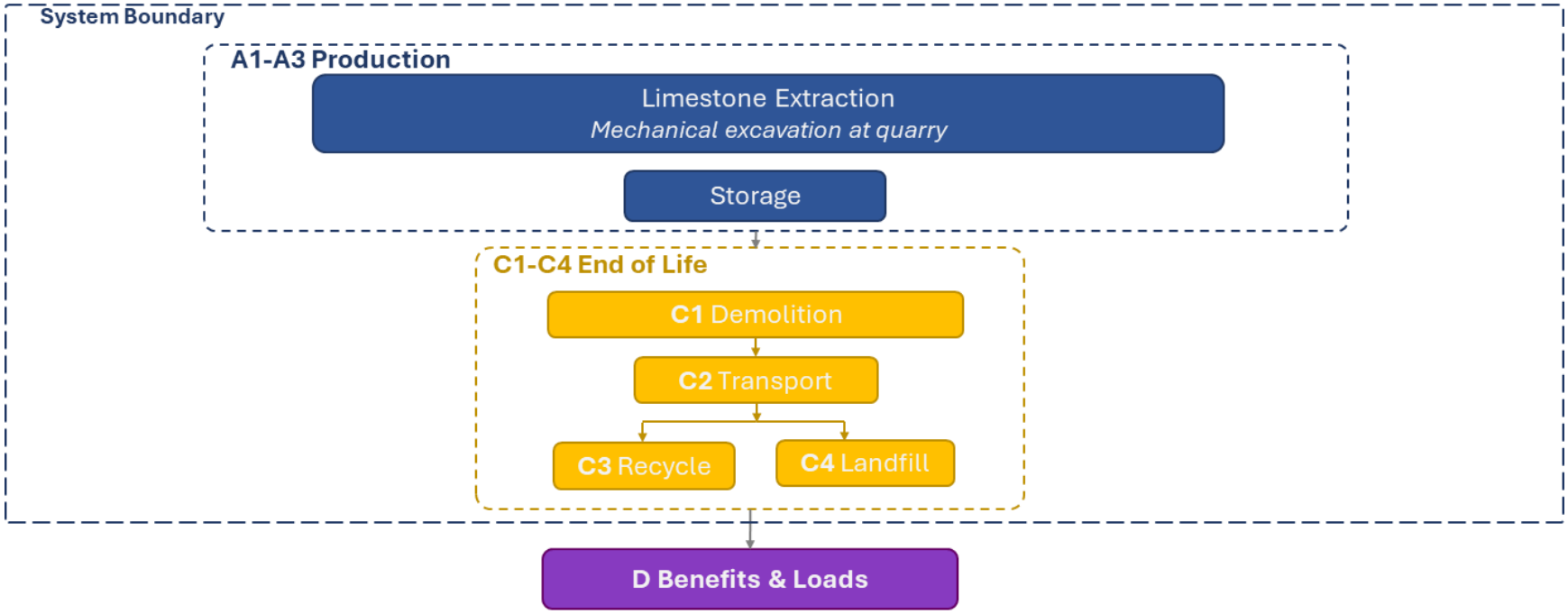
Air, soil, and water impacts during the use phase have not been studied.

## PRODUCT END OF LIFE (C1-C4, D)

In UK construction, demolition activities are carried out on-site, and the resulting waste is typically repurposed as building aggregates, thereby eliminating any transportation impacts associated with this end-of-life stage (C2). According to the EEA 5 report on Natural Portland Stone (2022), it is reported that 95.9% of the United Kingdom's mineral waste from construction is recycled. The process losses at the waste treatment plant are assumed to be negligible (C3). The remaining 4.1% of mineral waste is estimated to be directed to landfill (C4).

Owing to the recycling potential of natural stone, it can serve as a secondary raw material after its lifecycle, thereby reducing the reliance on virgin raw materials. It is assumed that 100% of the recycled mineral waste processed is converted into secondary raw materials through recycling efforts. The recycled material content of the stone product is assumed to be 0% (D).

# MANUFACTURING PROCESS



# LIFE-CYCLE ASSESSMENT

## CUT-OFF CRITERIA

The study does not exclude any modules or processes which are stated mandatory in the reference standard and the applied PCR. The study does not exclude any hazardous materials or substances. The study includes all major raw material and energy consumption. All inputs and outputs of the unit processes, for which data is available for, are included in the calculation. There is no neglected unit process more than 1% of total mass or energy flows. The module specific total neglected input and output flows also do not exceed 5% of energy usage or mass.

## ALLOCATION, ESTIMATES AND ASSUMPTIONS

Allocation is required if some material, energy, and waste data cannot be measured separately for the product under investigation. All allocations are done as per the reference standards and the applied PCR. In this study, allocation has been done in the following ways:

| Data type | Allocation |
|---|---|
| Raw materials | No allocation |
| Packaging material | Not applicable |
| Ancillary materials | Mass allocation |
| Manufacturing energy and waste | Mass allocation |

## AVERAGES AND VARIABILITY

| | |
|---|---|
| Type of average | No averaging |
| Averaging method | - |
| Variation in GWP-fossil for A1-A3 | - |

## LCA SOFTWARE AND BIBLIOGRAPHY

This EPD has been created using One Click LCA EPD Generator. The LCA and EPD have been prepared according to the reference standards and ISO 14040/14044. The EPD Generator uses Ecoinvent v3.10.1 and One Click LCA databases as sources of environmental data. Allocation used in Ecoinvent 3.10.1 environmental data sources follow the methodology ‘allocation, Cut-off, EN 15804+A2‘.

# ENVIRONMENTAL IMPACT DATA

## CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2

| Impact category | Unit | A1 | A2 | A3 | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 | D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GWP – total[1)] | kg $CO_2$e | 0,00E+00 | 2,69E-04 | 3,58E+01 | 3,58E+01 | MND | MND | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 9,68E+00 | 1,27E+01 | 4,00E-01 | -9,42E+00 |
| GWP – fossil | kg $CO_2$e | 0,00E+00 | 2,69E-04 | 3,58E+01 | 3,58E+01 | MND | MND | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 9,67E+00 | 1,26E+01 | 4,00E-01 | -9,41E+00 |
| GWP – biogenic | kg $CO_2$e | 0,00E+00 | 5,67E-08 | 3,70E-03 | 3,70E-03 | MND | MND | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 1,92E-03 | -1,30E-02 | -1,27E-04 | -8,97E-03 |
| GWP – LULUC | kg $CO_2$e | 0,00E+00 | 1,01E-07 | 3,71E-03 | 3,71E-03 | MND | MND | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 3,42E-03 | 2,24E-02 | 2,28E-04 | -8,51E-03 |
| Ozone depletion pot. | kg $CFC\text{-}_{11}$e | 0,00E+00 | 5,42E-12 | 5,50E-07 | 5,50E-07 | MND | MND | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 1,92E-07 | 1,91E-07 | 1,16E-08 | -7,33E-08 |
| Acidification potential | mol $H^+$e | 0,00E+00 | 8,68E-07 | 3,23E-01 | 3,23E-01 | MND | MND | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 3,02E-02 | 8,71E-02 | 2,83E-03 | -5,75E-02 |
| EP-freshwater[2)] | kg Pe | 0,00E+00 | 1,81E-08 | 1,05E-03 | 1,05E-03 | MND | MND | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 6,41E-04 | 3,72E-03 | 3,28E-05 | -2,87E-03 |
| EP-marine | kg Ne | 0,00E+00 | 2,95E-07 | 1,50E-01 | 1,50E-01 | MND | MND | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 1,02E-02 | 3,21E-02 | 1,08E-03 | -1,36E-02 |
| EP-terrestrial | mol Ne | 0,00E+00 | 3,21E-06 | 1,64E+00 | 1,64E+00 | MND | MND | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 1,11E-01 | 3,47E-01 | 1,18E-02 | -1,65E-01 |
| POCP ("smog")[3)] | kg NMVOCe | 0,00E+00 | 1,42E-06 | 4,90E-01 | 4,90E-01 | MND | MND | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 4,74E-02 | 1,09E-01 | 4,22E-03 | -4,56E-02 |
| ADP-minerals & metals[4)] | kg Sbe | 0,00E+00 | 7,43E-10 | 1,34E-05 | 1,34E-05 | MND | MND | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 3,16E-05 | 3,37E-05 | 6,35E-07 | -5,03E-05 |
| ADP-fossil resources | MJ | 0,00E+00 | 3,90E-03 | 4,70E+02 | 4,70E+02 | MND | MND | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 1,36E+02 | 1,82E+02 | 9,80E+00 | -1,13E+02 |
| Water use[5)] | $m^3$e depr. | 0,00E+00 | 2,00E-05 | 1,18E+00 | 1,18E+00 | MND | MND | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 6,67E-01 | 1,25E+00 | 2,83E-02 | -1,41E+01 |

*1) GWP = Global Warming Potential; 2) EP = Eutrophication potential. Required characterisation method and data are in kg P-eq. Multiply by 3,07 to get PO4e; 3) POCP = Photochemical ozone formation; 4) ADP = Abiotic depletion potential; 5) EN 15804+A2 disclaimer for Abiotic depletion and Water use and optional indicators except Particulate matter and Ionizing radiation, human health. The results of these environmental impact indicators shall be used with care as the uncertainties on these results are high or as there is limited experience with the indicator.*

## ADDITIONAL (OPTIONAL) ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2

| Impact category | Unit | A1 | A2 | A3 | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 | D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Particulate matter | Incidence | 0,00E+00 | 2,68E-11 | 9,17E-06 | 9,17E-06 | MND | MND | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 7,60E-07 | 8,85E-06 | 6,45E-08 | -8,73E-07 |
| Ionizing radiation[6)] | kBq U235e | 0,00E+00 | 4,70E-06 | 2,12E-01 | 2,12E-01 | MND | MND | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 1,73E-01 | 4,50E-01 | 6,16E-03 | -7,93E-01 |
| Ecotoxicity (freshwater) | CTUe | 0,00E+00 | 4,60E-04 | 2,59E+01 | 2,59E+01 | MND | MND | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 1,78E+01 | 6,29E+01 | 8,22E-01 | -2,69E+01 |
| Human toxicity, cancer | CTUh | 0,00E+00 | 4,43E-14 | 3,69E-09 | 3,69E-09 | MND | MND | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 1,65E-09 | 2,74E-09 | 7,37E-11 | -2,51E-09 |
| Human tox. non-cancer | CTUh | 0,00E+00 | 2,53E-12 | 5,89E-08 | 5,89E-08 | MND | MND | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 8,53E-08 | 1,15E-07 | 1,69E-09 | -7,34E-08 |
| SQP[7)] | - | 0,00E+00 | 3,93E-03 | 3,30E+01 | 3,30E+01 | MND | MND | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 8,08E+01 | 1,42E+02 | 1,93E+01 | -1,06E+02 |

6) EN 15804+A2 disclaimer for Ionizing radiation, human health. 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; 7) SQP = Land use related impacts/soil quality.

## USE OF NATURAL RESOURCES

| Impact category | Unit | A1 | A2 | A3 | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 | D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Renew. PER as energy[8)] | MJ | 0,00E+00 | 6,35E-05 | 3,02E+00 | 3,02E+00 | MND | MND | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 2,35E+00 | 6,68E+00 | 9,46E-02 | -1,03E+01 |
| Renew. PER as material | MJ | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | MND | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Total use of renew. PER | MJ | 0,00E+00 | 6,35E-05 | 3,02E+00 | 3,02E+00 | MND | MND | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 2,35E+00 | 6,68E+00 | 9,46E-02 | -1,03E+01 |
| Non-re. PER as energy | MJ | 0,00E+00 | 3,90E-03 | 4,68E+02 | 4,68E+02 | MND | MND | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 1,36E+02 | 1,82E+02 | 9,81E+00 | -1,13E+02 |
| Non-re. PER as material | MJ | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | MND | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Total use of non-re. PER | MJ | 0,00E+00 | 3,90E-03 | 4,68E+02 | 4,68E+02 | MND | MND | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 1,36E+02 | 1,82E+02 | 9,81E+00 | -1,13E+02 |
| Secondary materials | kg | 0,00E+00 | 1,69E-06 | 1,95E-01 | 1,95E-01 | MND | MND | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 6,22E-02 | 7,08E-02 | 2,46E-03 | -1,26E-01 |
| Renew. secondary fuels | MJ | 0,00E+00 | 2,13E-08 | 5,35E-04 | 5,35E-04 | MND | MND | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 7,85E-04 | 6,48E-04 | 5,10E-05 | -8,69E-04 |
| Non-ren. secondary fuels | MJ | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | MND | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Use of net fresh water | $m^3$ | 0,00E+00 | 5,76E-07 | 3,12E-02 | 3,12E-02 | MND | MND | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 1,83E-02 | -4,07E-01 | 1,02E-02 | -3,35E-01 |

*8) PER = Primary energy resources.*

## END OF LIFE – WASTE

| Impact category | Unit | A1 | A2 | A3 | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 | D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Hazardous waste | kg | 0,00E+00 | 5,64E-06 | 5,24E-01 | 5,24E-01 | MND | MND | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 1,95E-01 | 4,65E-01 | 1,08E-02 | -8,81E-01 |
| Non-hazardous waste | kg | 0,00E+00 | 1,13E-04 | 7,29E+00 | 7,29E+00 | MND | MND | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 4,11E+00 | 5,99E+02 | 2,48E-01 | -1,57E+01 |
| Radioactive waste | kg | 0,00E+00 | 1,16E-09 | 5,21E-05 | 5,21E-05 | MND | MND | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 4,30E-05 | 1,10E-04 | 1,50E-06 | -1,91E-04 |

## END OF LIFE – OUTPUT FLOWS

| Impact category | Unit | A1 | A2 | A3 | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 | D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Components for re-use | kg | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | MND | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Materials for recycling | kg | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | MND | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 9,36E+02 | 0,00E+00 | 0,00E+00 |
| Materials for energy rec | kg | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | MND | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Exported energy | MJ | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | MND | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Exported energy – Electricity | MJ | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | MND | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Exported energy – Heat | MJ | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | MND | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |

## ENVIRONMENTAL IMPACTS – EN 15804+A1, CML / ISO 21930

| Impact category | Unit | A1 | A2 | A3 | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 | D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Global Warming Pot. | kg $CO_2$e | 0,00E+00 | 2,67E-04 | 3,56E+01 | 3,56E+01 | MND | MND | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 9,61E+00 | 1,26E+01 | 3,96E-01 | -9,36E+00 |
| Ozone depletion Pot. | kg $CFC_{-11}$e | 0,00E+00 | 4,31E-12 | 4,36E-07 | 4,36E-07 | MND | MND | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 1,53E-07 | 1,53E-07 | 9,19E-09 | -6,18E-08 |
| Acidification | kg $SO_2$e | 0,00E+00 | 6,59E-07 | 2,27E-01 | 2,27E-01 | MND | MND | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 2,30E-02 | 6,52E-02 | 2,10E-03 | -4,46E-02 |
| Eutrophication | kg $PO_4^3$e | 0,00E+00 | 1,67E-07 | 5,31E-02 | 5,31E-02 | MND | MND | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 5,84E-03 | 1,54E-02 | 6,66E-04 | -8,66E-03 |
| POCP (“smog”) | kg $C_2H_4$e | 0,00E+00 | 6,19E-08 | 1,70E-02 | 1,70E-02 | MND | MND | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 2,19E-03 | 4,71E-03 | 1,98E-04 | -3,93E-03 |
| ADP-elements | kg Sbe | 0,00E+00 | 7,25E-10 | 1,30E-05 | 1,30E-05 | MND | MND | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 3,09E-05 | 3,31E-05 | 6,22E-07 | -4,96E-05 |
| ADP-fossil | MJ | 0,00E+00 | 3,82E-03 | 4,66E+02 | 4,66E+02 | MND | MND | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 1,33E+02 | 1,75E+02 | 9,71E+00 | -1,00E+02 |

## ENVIRONMENTAL IMPACTS – GWP-GHG

| Impact category | Unit | A1 | A2 | A3 | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 | D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GWP-GHG[9)] | kg $CO_2$e | 0,00E+00 | 2,69E-04 | 3,58E+01 | 3,58E+01 | MND | MND | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 9,67E+00 | 1,27E+01 | 4,00E-01 | -9,41E+00 |

*9) This indicator includes all greenhouse gases excluding biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product as defined by IPCC AR 5 (IPCC 2013). In addition, the characterisation factors for the flows - CH4 fossil, CH4 biogenic and Dinitrogen monoxide - were updated in line with the guidance of IES PCR 1.2.5 Annex 1. This indicator is identical to the GWP-total of EN 15804:2012+A2:2019 except that the characterization factor for biogenic CO2 is set to zero.*

# VERIFICATION STATEMENT

## VERIFICATION PROCESS FOR THIS EPD

This EPD has been verified in accordance with ISO 14025 by an independent, third-party verifier by reviewing results, documents and compliancy with reference standard, ISO 14025 and ISO 14040/14044, following the process and checklists of the program operator for:

- This Environmental Product Declaration
- The Life-Cycle Assessment used in this EPD
- The digital background data for this EPD

Why does verification transparency matter? Read more online
This EPD has been generated by One Click LCA EPD generator, which has been verified and approved by the EPD Hub.

## THIRD-PARTY VERIFICATION STATEMENT

I hereby confirm that, following detailed examination, I have not established any relevant deviations by the studied Environmental Product Declaration (EPD), its LCA and project report, in terms of the data collected and used in the LCA calculations, the way the LCA-based calculations have been carried out, the presentation of environmental data in the EPD, and other additional environmental information, as present with respect to the procedural and methodological requirements in ISO 14025:2010 and reference standard.

I confirm that the company-specific data has been examined as regards plausibility and consistency; the declaration owner is responsible for its factual integrity and legal compliance.

I confirm that I have sufficient knowledge and experience of construction products, this specific product category, the construction industry, relevant standards, and the geographical area of the EPD to carry out this verification.

I confirm my independence in my role as verifier; I have not been involved in the execution of the LCA or in the development of the declaration and have no conflicts of interest regarding this verification.

Sarah Curpen, as an authorized verifier acting for EPD Hub Limited
19.08.2025