# ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

**EPD HUB, HUB-6000**

Published on 16.04.2026, last updated on 16.04.2026, valid until 16.04.2031

## B5059 - C50/20 (200 Kg OPC + 200 Kg GGBS) (50% OPC + 50% GGBS)

## Emirates Beton Readymix LLC


This EPD is intended for business-to-business and/or business-to-consumer communication. 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. 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.

## MANUFACTURER AND SITE

| | |
|---|---|
| Manufacturer | Emirates Beton Readymix LLC |
| Address | Jebel Ali Industrial Area 1, Dubai, UAE |
| Contact details | info@ebrm.ae |
| Website | www.emiratesbeton.com |
| Company Description | Emirates Beton (EB) was established with a view to perform actively in the niche high-performance concrete sector. With the production capacity of 6,000 m3 a day, EB has grown into one of the ready-mix producers in the UAE. EB caters to a wide variety of applications that include tower, residential, commercial and industrial construction. It specializes in the design, production and supply of ready-mix concrete using highly sophisticated, tried and tested processes. |
| Place of production | Jebel Ali Industrial Area 1, Dubai, UAE |
| Place(s) of raw material origin | United Arab Emirates |
| Place(s) of installation and use | United Arab Emirates |
| Period for data | 02.02.2024 - 31.01.2025 |

## EPD STANDARDS, SCOPE AND VERIFICATION

| | |
|---|---|
| Program operator | EPD Hub, hub@epdhub.com |
| Reference standard | EN 15804:2012+A2:2019/AC:2021 and ISO 14025 |
| PCR | EPD Hub Core PCR version 1.2, 24 Mar 2025 |
| cPCR | EN 16757 Product Category Rules for concrete and concrete elements |
| Sector | Construction product |
| Category of EPD | Third party verified EPD |
| Parent EPD number | |
| Scope of the EPD | Cradle to gate with modules C1-C4, D |
| EPD author | Mahmoud Abdelmonem |
| EPD verification | Independent verification of this EPD and data, according to ISO 14025:<br>☐ Internal verification<br>☑ External verification |
| EPD verifier | HaiHa Nguyen, as an authorized verifier acting for EPD Hub Limited |

## PRODUCT SPECIFICATION

| | |
|---|---|
| Product name | C50_20 / 200 Kg OPC + 200 Kg GGBS (50% OPC + 50% GGBS) |
| Concrete type | Ready-mix concrete |
| Product standards | EN 206 |
| A1-A3 Specific data (%) | 8,63 |

## PRODUCT DESCRIPTION

The product is a readymix concrete consists of cement (OPC + GGBS), water, aggregates and admixtures.
Mix : C50/20, 200 kg OPC + 200 Kg GGBS
Slump at the point delivery: 200+/-30 mm
Water Cement Ratio : 0.34
Structural Element : Substructure

## PRODUCT CHARACTERISTICS

**Compressive strength class:**
C50/20
**Strength evaluation days:**
28 days
**Exposure class:**
XC2

## ENVIRONMENTAL DATA SUMMARY

| | |
|---|---|
| Declared unit | 1 cubic meter |
| Declared unit mass, kg | 2504 |
| GWP-total, A1-A3 (kg $CO_2e$) | 260 |
| GWP-fossil, A1-A3 (kg $CO_2e$) | 259 |
| Secondary material, inputs (%) | 0 |
| Secondary material, outputs (%) | 70 |
| Total energy use, A1-A3 (kWh) | 511 |
| Net freshwater use, A1-A3 ($m^3$) | 1,90E+00 |

# LIFE CYCLE ASSESSMENT

## 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 |
| x | x | x | ND | ND | ND | ND | ND | ND | ND | ND | ND | x | x | x | x | x |
| Raw materials | Transport | Manufacturing | Transport | Assembly | Use | Maintenance | Repair | Replacement | Refurbishment | Operational energy | Operational water | Deconstr./demol. | Transport | Waste processing | Disposal | Reuse, Recovery, Recycling |

*Not declared = ND.*

## 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. 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.

The production of capital equipment, construction activities, and infrastructure, maintenance and operation of capital equipment, personnel-related activities, energy and water use related to company management and sales activities are excluded.

## VALIDATION OF DATA

Data collection for production, transport was conducted using time and site-specific information, as defined in the general information section on page 1 and 2. Upstream process calculations rely on generic data as defined in the Bibliography section.
Manufacturer-provided specific and generic data were used for the product's manufacturing stage. The analysis was performed in One Click LCA EPD Generator, with the 'Cut-Off, EN 15804+A2' allocation method, and characterization factors according to EN 15804:2012+A2:2019/AC:2021 and JRC EF 3.1.

## ALLOCATION, ESTIMATES AND ASSUMPTIONS

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 | Allocated by mass |
| Packaging materials | Not applicable |
| Ancillary materials | Allocated by mass |
| Manufacturing energy and waste | Allocated by mass |

## PRODUCT & MANUFACTURING SITES GROUPING

| | |
|---|---|
| Type of grouping | No grouping |
| Grouping method | Not applicable |
| Variation in GWP-fossil for A1-A3, % | Not applicable |

This EPD is product and factory specific.

## PRODUCT RAW MATERIAL MAIN COMPOSITION

The product is a ready-mix concrete consisting of aggregates, cement, filler, admixtures, and water. Main material categories as per EPD Hub GPI are shown below:

| Raw material category | Amount, mass- % | Material origin |
|---|---|---|
| Minerals | 99,76 | UAE |
| Fossil materials | 0,24 | UAE |

## SUBSTANCES, REACH - VERY HIGH CONCERN

The product does not contain any REACH SVHC substances in amounts greater than 0,1 % (1000 ppm).

## BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

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

# PRODUCT LIFE CYCLE

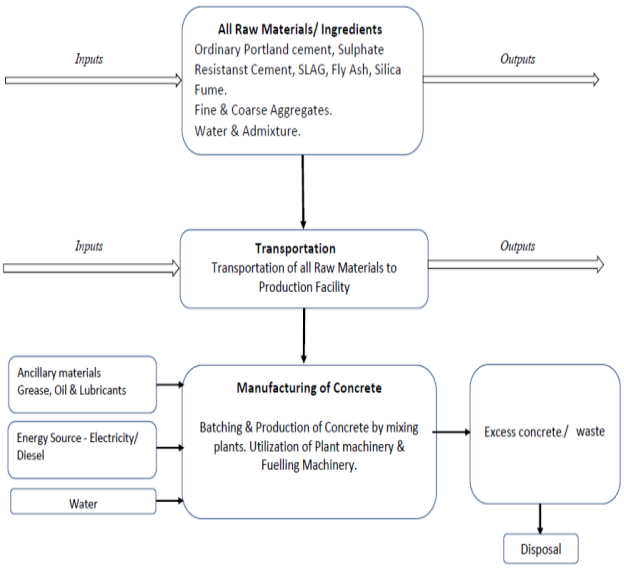
## MANUFACTURING (A1-A3)

The environmental impacts considered for the product stage cover the manufacturing of raw materials used in the production. 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.

Ready-mix concrete production starts by transporting the binders, aggregates, and additives to the manufacturing site and storing them into closed silos and containers. The aggregates are then dosed onto a scale and transferred to a concrete mixer. In the mixer, cement is added to the aggregates, after which the material is mixed dry. Water and additives are then added to the mixture, followed by wet mixing. After mixing, the concrete mass is unloaded from the mixer into the tank of the concrete mixer truck, which is transported to the construction site.

No packaging is included as the product is transported with mixer trucks.

## MANUFACTURING PROCESS DIAGRAM (A1-A3)




## TRANSPORT AND INSTALLATION (A4-A5)

This EPD does not cover modules A4, A5.

## PRODUCT USE AND MAINTENANCE (B1-B7)

This EPD does not cover the use phase. Air, soil, and water impacts during the use phase have not been studied. Carbonation is not taken into account in this EPD.

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

At the end of its life, the concrete is assumed to be part of a concrete building that is demolished using machinery, consuming energy in the form of diesel (C1).

The concrete blocks gotten after the demolition are delivered 50 km by a lorry to the nearest construction waste treatment (C2). It is assumed that 100% of the demolished concrete is transported to a site where this waste is processed by, crushing the blocks to gravel. About 70% of concrete can be recycled this way (C3), with an assumption that non-reinforced concrete is being sorted. The remaining 30% of concrete is assumed to be sent to the landfill for disposal (C4). The crushed concrete received from waste treatment can be used as a replacement for virgin gravel or for raw materials in road construction (D). The process losses of the waste treatment plant are assumed to be negligible.

## LCA SOFTWARE AND BIBLIOGRAPHY

This EPD has been created using One Click LCA Concrete EPD Generator v3.2.3. The LCA and EPD have been prepared according to the reference standards and ISO 14040/14044. Ecoinvent v3.10.1/3.11/3.12 and One Click LCA databases were used as sources of environmental data. Allocation used in Ecoinvent 3.10.1/3.11/3.12 environmental data sources follow the methodology ‘allocation, cut-off, EN 15804+A2‘.

# ENVIRONMENTAL IMPACT DATA

*The estimated impact results are only relative statements which do not indicate the end points of the impact categories, exceeding threshold values, safety margins or risks.*

## CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, EF 3.1

| 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 | 2,37E+02 | 1,84E+01 | 4,27E+00 | 2,60E+02 | ND | ND | ND | ND | ND | ND | ND | ND | ND | 4,76E+00 | 1,35E+01 | 7,66E+00 | 4,68E+00 | -1,37E+01 |
| GWP – fossil | kg $CO_2$e | 2,37E+02 | 1,84E+01 | 4,27E+00 | 2,59E+02 | ND | ND | ND | ND | ND | ND | ND | ND | ND | 4,76E+00 | 1,35E+01 | 7,66E+00 | 4,68E+00 | -1,36E+01 |
| GWP – biogenic | kg $CO_2$e | 1,78E-01 | 4,18E-03 | 8,41E-04 | 1,83E-01 | ND | ND | ND | ND | ND | ND | ND | ND | ND | 4,85E-04 | 3,05E-03 | -7,81E-04 | -1,49E-03 | -4,27E-02 |
| GWP – LULUC | kg $CO_2$e | 6,37E-02 | 8,25E-03 | 7,02E-04 | 7,26E-02 | ND | ND | ND | ND | ND | ND | ND | ND | ND | 4,87E-04 | 6,02E-03 | 7,84E-04 | 2,68E-03 | -1,88E-02 |
| Ozone depletion pot. | kg $CFC_{-11}$e | 1,20E-06 | 2,72E-07 | 4,96E-07 | 1,96E-06 | ND | ND | ND | ND | ND | ND | ND | ND | ND | 7,28E-08 | 1,99E-07 | 1,17E-07 | 1,36E-07 | -1,14E-06 |
| Acidification potential | mol $H^+$e | 8,00E-01 | 6,29E-02 | 1,25E-02 | 8,75E-01 | ND | ND | ND | ND | ND | ND | ND | ND | ND | 4,29E-02 | 4,59E-02 | 6,91E-02 | 3,32E-02 | -8,90E-02 |
| EP-freshwater[2)] | kg Pe | 3,17E-02 | 1,44E-03 | 2,05E-04 | 3,34E-02 | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1,37E-04 | 1,05E-03 | 2,21E-04 | 3,85E-04 | -8,06E-04 |
| EP-marine | kg Ne | 2,04E-01 | 2,07E-02 | 4,95E-03 | 2,30E-01 | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1,99E-02 | 1,51E-02 | 3,21E-02 | 1,27E-02 | -1,93E-02 |
| EP-terrestrial | mol Ne | 2,30E+00 | 2,25E-01 | 5,38E-02 | 2,58E+00 | ND | ND | ND | ND | ND | ND | ND | ND | ND | 2,18E-01 | 1,64E-01 | 3,51E-01 | 1,38E-01 | -2,52E-01 |
| POCP ("smog")[3)] | kg NMVOCe | 6,58E-01 | 9,27E-02 | 1,56E-02 | 7,66E-01 | ND | ND | ND | ND | ND | ND | ND | ND | ND | 6,50E-02 | 6,76E-02 | 1,05E-01 | 4,95E-02 | -6,46E-02 |
| ADP-minerals & metals[4)] | kg Sbe | 1,18E-03 | 5,14E-05 | 2,73E-06 | 1,24E-03 | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1,71E-06 | 3,75E-05 | 2,75E-06 | 7,44E-06 | -1,37E-04 |
| ADP-fossil resources | MJ | 1,45E+03 | 2,68E+02 | 6,49E+01 | 1,78E+03 | ND | ND | ND | ND | ND | ND | ND | ND | ND | 6,22E+01 | 1,95E+02 | 1,00E+02 | 1,15E+02 | -2,02E+02 |
| Water use[5)] | $m^3$e depr. | 4,32E+01 | 1,32E+00 | 1,63E+01 | 6,09E+01 | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1,55E-01 | 9,64E-01 | 2,50E-01 | 3,32E-01 | -2,69E+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, EF 3.1

| 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 | 9,25E-06 | 1,85E-06 | 3,16E-07 | 1,14E-05 | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1,22E-06 | 1,35E-06 | 1,50E-05 | 7,55E-07 | -1,14E-06 |
| Ionizing radiation[6)] | kBq U235e | 3,97E+00 | 2,33E-01 | 6,82E-02 | 4,27E+00 | ND | ND | ND | ND | ND | ND | ND | ND | ND | 2,76E-02 | 1,70E-01 | 4,44E-02 | 7,22E-02 | -3,22E+00 |
| Ecotoxicity (freshwater) | CTUe | 4,49E+02 | 3,78E+01 | 2,82E+00 | 4,89E+02 | ND | ND | ND | ND | ND | ND | ND | ND | ND | 3,43E+00 | 2,76E+01 | 5,52E+00 | 9,64E+00 | -2,43E+02 |
| Human toxicity, cancer | CTUh | 6,17E-08 | 3,04E-09 | 4,25E-10 | 6,52E-08 | ND | ND | ND | ND | ND | ND | ND | ND | ND | 4,89E-10 | 2,22E-09 | 7,87E-10 | 8,63E-10 | -1,41E-08 |
| Human tox. non-cancer | CTUh | 1,57E-06 | 1,73E-07 | 1,69E-08 | 1,76E-06 | ND | ND | ND | ND | ND | ND | ND | ND | ND | 7,74E-09 | 1,26E-07 | 1,25E-08 | 1,98E-08 | -2,59E-07 |
| SQP[7)] | - | 7,91E+02 | 2,69E+02 | 7,15E+00 | 1,07E+03 | ND | ND | ND | ND | ND | ND | ND | ND | ND | 4,36E+00 | 1,97E+02 | 7,02E+00 | 2,26E+02 | -1,95E+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 | 8,82E+01 | 3,67E+00 | 7,30E-01 | 9,26E+01 | ND | ND | ND | ND | ND | ND | ND | ND | ND | 3,94E-01 | 2,68E+00 | 6,34E-01 | 1,11E+00 | -2,00E+01 |
| Renew. PER as material | MJ | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | ND | ND | ND | ND | ND | ND | ND | ND | ND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Total use of renew. PER | MJ | 8,82E+01 | 3,67E+00 | 7,30E-01 | 9,26E+01 | ND | ND | ND | ND | ND | ND | ND | ND | ND | 3,94E-01 | 2,68E+00 | 6,34E-01 | 1,11E+00 | -2,00E+01 |
| Non-re. PER as energy | MJ | 1,41E+03 | 2,68E+02 | 6,52E+01 | 1,75E+03 | ND | ND | ND | ND | ND | ND | ND | ND | ND | 6,22E+01 | 1,95E+02 | 1,00E+02 | 1,15E+02 | -2,08E+02 |
| Non-re. PER as material | MJ | 3,64E+01 | 0,00E+00 | -4,49E-01 | 3,59E+01 | ND | ND | ND | ND | ND | ND | ND | ND | ND | 0,00E+00 | 0,00E+00 | -2,52E+01 | -1,08E+01 | 2,52E+01 |
| Total use of non-re. PER | MJ | 1,45E+03 | 2,68E+02 | 6,47E+01 | 1,78E+03 | ND | ND | ND | ND | ND | ND | ND | ND | ND | 6,22E+01 | 1,95E+02 | 7,50E+01 | 1,04E+02 | -1,83E+02 |
| Secondary materials | kg | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | ND | ND | ND | ND | ND | ND | ND | ND | ND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Renew. secondary fuels | MJ | 1,19E-02 | 1,45E-03 | 3,66E-05 | 1,33E-02 | ND | ND | ND | ND | ND | ND | ND | ND | ND | 6,76E-05 | 1,06E-03 | 1,09E-04 | 5,98E-04 | -1,62E-03 |
| Non-ren. secondary fuels | MJ | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | ND | ND | ND | ND | ND | ND | ND | ND | ND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Use of net fresh water | $m^3$ | 1,52E+00 | 3,95E-02 | 3,32E-01 | 1,90E+00 | ND | ND | ND | ND | ND | ND | ND | ND | ND | 4,11E-03 | 2,89E-02 | 6,62E-03 | 1,19E-01 | -6,26E-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 | 8,54E+00 | 4,53E-01 | 5,72E-02 | 9,05E+00 | ND | ND | ND | ND | ND | ND | ND | ND | ND | 6,93E-02 | 3,31E-01 | 1,12E-01 | 1,27E-01 | -1,58E+00 |
| Non-hazardous waste | kg | 1,71E+02 | 8,39E+00 | 7,56E+00 | 1,87E+02 | ND | ND | ND | ND | ND | ND | ND | ND | ND | 9,44E-01 | 6,12E+00 | 1,52E+00 | 2,90E+00 | -2,92E+01 |
| Radioactive waste | kg | 9,80E-04 | 5,70E-05 | 1,38E-05 | 1,05E-03 | ND | ND | ND | ND | ND | ND | ND | ND | ND | 6,76E-06 | 4,16E-05 | 1,09E-05 | 1,76E-05 | -4,02E-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 | ND | ND | ND | ND | ND | ND | ND | ND | ND | 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 | 2,19E+01 | 2,19E+01 | ND | ND | ND | ND | ND | ND | ND | ND | ND | 0,00E+00 | 0,00E+00 | 1,75E+03 | 0,00E+00 | 0,00E+00 |
| Materials for energy rec | Kg | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | ND | ND | ND | ND | ND | ND | ND | ND | ND | 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 | ND | ND | ND | ND | ND | ND | ND | ND | ND | 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 | ND | ND | ND | ND | ND | ND | ND | ND | ND | 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 | ND | ND | ND | ND | ND | ND | ND | ND | ND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |

## ADDITIONAL INDICATOR – 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 | 2,37E+02 | 1,84E+01 | 4,27E+00 | 2,59E+02 | ND | ND | ND | ND | ND | ND | ND | ND | ND | 4,76E+00 | 1,35E+01 | 7,66E+00 | 4,68E+00 | -1,36E+01 |

*9) This indicator includes all greenhouse gases excluding biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. In addition, the characterisation factors for the flows - CH4 fossil, CH4 biogenic and Dinitrogen monoxide - were updated. 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.*

## SCENARIO DOCUMENTATION DATA SOURCES

### Manufacturing energy scenario documentation – A3 (Energy data source)

1. Electricity, Electricity, consumption mix w/o renewables, United Arab Emirates, 2023, United Arab Emirates, LCA study for country specific consumption mixes, OneClickLCA 2025, 0.74 kgCO2e/kWh

2. Construction, specialized activities, demolition and site preparation, Market for diesel, burned in building machine, World, ecoinvent 3.10.1, 0.10 kgCO2e/MJ

3. Water supply, sewerage, waste management, water collection, treatment and supply, Market for tap water, World, ecoinvent 3.10.1, 0.0013 kgCO2e/kg

## END OF LIFE SCENARIO DOCUMENTATION

| Scenario information | Value |
|---|---|
| Collection process – kg collected separately | 0 |
| Collection process – kg collected with mixed construction waste | 2504 |
| Recovery process – kg for re-use | 0 |
| Recovery process – kg for recycling | 1752.8E+03 |
| Recovery process – kg for energy recovery | 0 |
| Disposal (total) – kg for final deposition | 751.2E+02 |
| Scenario assumptions e.g. transportation | Market for transport, freight, lorry >32 metric ton, EURO5; 50km |

# THIRD-PARTY VERIFICATION STATEMENT

EPD Hub declares that this EPD is verified in accordance with ISO 14025 by an independent, third-party verifier. The project report on the Life Cycle Assessment and the report(s) on features of environmental relevance are filed at EPD Hub. EPD Hub PCR and ECO Platform verification checklist are used.

EPD Hub is not able to identify any unjustified deviations from the PCR and EN 15804+A2 in the Environmental Product Declaration and its project report.

EPD Hub maintains its independence as a third-party body; it was not involved in the execution of the LCA or in the development of the declaration and has no conflicts of interest regarding this verification.

The company-specific data and upstream and downstream data have been examined as regards plausibility and consistency. The publisher is responsible for ensuring the factual integrity and legal compliance of this declaration.

Program assistant: Xinyuan Zhang

The software used in creation of this LCA and EPD is verified by EPD Hub to conform to the procedural and methodological requirements outlined in ISO 14025:2010, ISO 14040/14044, EN 15804+A2, and EPD Hub Core Product Category Rules and General Program Instructions.

Verified tools
Tool verifier: Imane Uald Lamkaddam
Tool verification validity: 28 March 2025 - 27 March 2028