

Environmental Product Declaration

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

READY-MIX CONCRETE

From

DUBAI PRECAST LLC



Programme:	Environmental Footprint Institute, https://www.environmentalfootprintinstitute.org/
Product group classification:	UN CPC 37510
Type of EPD:	EPD of multiple products: based on average results
Precast Mixes	50/20 OPC+GGBS (G50-439), 60/20 OPC+GGBS+MS, 60/10 OPC+GGBS (G60-200), 60/20 OPC+GGBS+MS (G60-221)
Reference number:	261003EPD CPR-3100
Version date:	2026-10-29
Validity date:	2032-10-28
Geographical Scope	<i>An Environmental Footprint (EF) should provide current information and may be updated if conditions change. The stated validity is therefore subject to the continued registration and publication at www.environmentalfootprintinstitute.org Manufactured in Dubai and distributed in Dubai and foreign countries.</i>



ENVIRONMENTAL FOOTPRINT INSTITUTE



GENERAL INFORMATION

Programme Information	
Programme:	Environmental Footprint Institute
Address:	The Environmental Footprint Institute Calle CIRCE 49A Madrid 28022 Spain www.environmentalfootprintinstitute.org
Website:	https://www.environmentalfootprintinstitute.org/
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Product Category Rules (PCR)
CEN standard EN 15804 serves as the Core Product Category Rules (PCR)
Product Category Rules (PCR): PCR P-3100: Construction products in general (EN 15804:2012+A2:2019/AC:2021 and EN 16757:2022 for concrete and concrete elements).
PCR review was conducted by: The Environmental Footprint Institute.
Life Cycle Assessment (LCA)
LCA Accountability: VR SRINIVASAN CERT PVT LTD - Web: vrscert.com/

Third-party Verification

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

☒ **Individual EPD verification without a pre-verified LCA/EPD tool**

Third-party verifier: [Mr. Iván Jiménez](#)

Email: info@solidforest.com

Accredited by: The Environmental Footprint Institute.

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

☐ Yes

☒ No

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

EPDs within the same product category but registered in different EPD programs may not be comparable. For two EPDs to be comparable, they must be based on the same PCR (including the same version number) or be based on fully-aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical declared/functional units); have equivalent system boundaries and descriptions of data; apply equivalent data quality requirements, methods of data collection, and allocation methods; apply identical cut-off rules and impact assessment methods (including the same version of characterization factors); have equivalent content declarations; and be valid at the time of comparison.

INFORMATION ABOUT EPD OWNER

Owner of the EPD: Dubai Precast LLC

Address: P O Box: 61055

Jabel Ali Industrial Area3, Dubai - United Arab Emirates

Contact:

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QA/QC Manager,

Dubai Precast LLC

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Address and contact information of the LCA practitioner commissioned by the EPD owner, if applicable:

[Udayakumar Inbamani](#) - Carbon Footprint Analyst

VR SRINIVASAN CERT PVT LTD

Chennai - 600126

Mail: esg@vrscert.com

Web: vrscert.com/

Description of the organisation:

Dubai Precast LLC is a company specialized in the supply of prefabricated building components. We provide innovative building solutions for our customers as we build tomorrow's VISION together. Emphasizing customer service and quality products, Dubai Precast starts close collaboration with clients, architects, engineers and contractors in the early stages of the project in order to develop a total solution without any compromise.

Dubai Precast LLC is a manufacturing company established in April 2006 in Jebel Ali, Dubai with a paid-up capital of AED 10 million. Dubai Precast LLC is intently working on building tomorrow's vision in the rapidly growing Precast Industry. We have been consistently excelling in providing prefabricated building solutions to our customers' satisfaction. Since the day of origin in this region, we are confidently growing in terms of performance as well as the working team with all our local and international know-how, knowledge and experience as basic pillars of our company.

Product-related or management system-related certifications:

Dubai Precast demonstrates a strong commitment to product quality, environmental responsibility, occupational health and safety, and compliance with applicable regulatory and technical requirements. The company operates under certified management systems in accordance with ISO 9001, ISO 14001, and ISO 45001, ensuring systematic control of quality, environmental performance, and occupational health and safety across its operations. These systems support consistent product performance, environmental management, risk control, and continual improvement.

Dubai Precast products are manufactured in accordance with applicable technical and industry requirements, supported by established quality control and testing processes to ensure product conformity and suitability for intended construction applications. In support of regulatory and product conformity, Dubai Precast holds the DCL Conformity Mark, demonstrating compliance with applicable Dubai regulatory requirements and product conformity standards.

Through the implementation of ISO 9001, ISO 14001, and ISO 45001 management systems, together with the DCL Conformity Mark, Dubai Precast maintains effective process monitoring, documentation, corrective action, environmental controls, occupational health and safety practices, and product quality assurance. This integrated management framework reflects Dubai Precast's alignment with recognized international management standards and applicable regulatory requirements, reinforcing its commitment to quality, sustainability, safety, and reliable product performance.



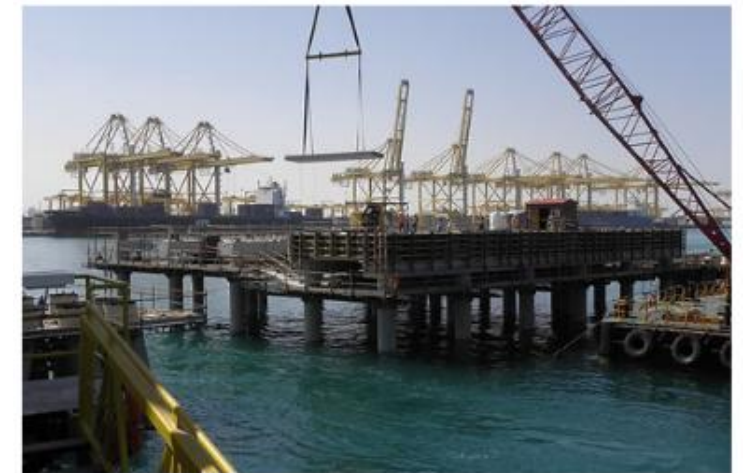
PRODUCT INFORMATION

Product name: 1 cubic meter of Ready-mix Concrete.

Product identification: Ready-mix Concrete

Product description:

Dubai Precast Ready-Mix Concrete is a high-performance, factory-produced concrete manufactured using carefully selected cement, supplementary cementitious materials, aggregates, water, and admixtures. Produced under strict quality control, it is available in a range of strength grades and mix designs to meet structural, architectural, and infrastructure requirements. The ready-mix concrete ensures consistent quality, excellent workability, durability, and reliable performance for residential, commercial, industrial, and civil engineering applications.



Product portfolio:

Dubai Precast LLC manufactures high-quality precast concrete products for residential, commercial, industrial, infrastructure, and marine construction projects across the United Arab Emirates. The company specializes in the design, manufacture, and supply of prefabricated concrete components, including columns, beams, hollow core slabs, solid slabs, staircases, wall panels, cladding panels, bridge girders, tunnel segments, culverts, retaining wall structures, and other customized precast elements to meet project-specific requirements.

The precast products are manufactured using high-performance concrete produced in automated batching plants with computerized weighing and mixing systems to ensure consistent quality and precision. The concrete is prepared using carefully selected Ordinary Portland Cement (OPC), Ground Granulated Blast Furnace Slag (GGBS), Microsilica (MS), fine and coarse aggregates, water, and admixtures, all sourced from approved suppliers and subjected to stringent quality control procedures.

The fresh concrete is transferred directly to the precast production facility, where it is cast into moulds, compacted, cured under controlled conditions, demoulded, finished, inspected, and stored before delivery to customers. Comprehensive quality assurance procedures, including testing of raw materials, fresh concrete, and hardened concrete, are implemented throughout the manufacturing process to ensure compliance with applicable project specifications and international standards. The use of supplementary cementitious materials such as GGBS and Microsilica enhances the strength, durability, and long-term performance of the precast products while improving resource efficiency.

The present study covers the concrete mixes used by Dubai Precast for manufacturing precast concrete products, including the following mix designs:

- 50/20 OPC+GGBS (G50-439)
- 60/20 OPC+GGBS+MS
- 60/10 OPC+GGBS (G60-200)
- 60/20 OPC+GGBS+MS (G60-221)

Name and location of production site(s): United Arab Emirates



CONTENT DECLARATION

Declared unit: 1 Cubic meter of Ready-mix Concrete.

Content of the Product:

Product content	Mass, ton/m ³ (Min -Max)	Pre-consumer recycled material, mass-% of product	Post-consumer recycled material, mass-% of product	Biogenic material, mass-% of product	Biogenic material, kg C/ kg of product
Cement (OPC)	0.280 - 0.314	0%	0%	0%	0
GGBS	0.110 - 0.160	0%	0%	0%	0
Microsilica	0.013 - 0.022	0%	0%	0%	0
Water	0.113 - 0.154	0%	0%	0%	0
Aggregates	1.000 - 1.250	0%	0%	0%	0
Sand	0.706 - 0.859	0%	0%	0%	0
Admixture	0.005 - 0.009	0%	0%	0%	0
TOTAL	2.49	0%	0%	0%	0

The declared precast concrete products are supplied without packaging materials. As the products are transported directly from the manufacturing facility to the project site using appropriate handling and securing methods, no primary, secondary, or tertiary packaging is used during product dispatch.

No substance listed in the *Candidate List of Substances of Very High Concern (SVHC) for Authorisation* is present in Dubai Precast's final products at concentrations exceeding 0.1% by weight, in compliance with the European REACH regulatory requirements.

LCA INFORMATION

Declared unit: 1 Cubic meter of Ready-mix Concrete.

Reference Service Life: 100 Years

Time representativeness: Facility-specific data for Dubai Precast have been collected as a 12-month average covering the period **January 2025 to December 2025**. The following rules for the time scope of data were applied: <10 years for background data and <2 years for manufacturer's data.

Geographical scope: Global

Database(s) and LCA software used: Ecoinvent 3.12, Air.e LCA v3.21.1.2 Software and characterization factors of EN 15804 reference package based on EF 3.1 are utilized.

Description of system boundaries:

This EPD covers all product stages from “**EPD type B, cradle to gate with options, modules A5, modules B, modules C1-C4, and module D**”, meaning the Life Cycle Assessment (LCA) includes the Production stage (A1-A3), Installation Stage (A5), Use Stage (B1-B7), End of- Life stages (C1-C4), and Resource Recovery stage (D), in accordance with EN 15804+A2 version 2.0.1. The system boundaries of this environmental study encompass not only the processes directly controlled by Dubai Precast LLC but also upstream and downstream activities such as raw material extraction, processing, fuel supply, and transportation. All related direct and indirect environmental impacts associated with these activities have been calculated and are included in the Life Cycle Assessment (LCA) within this EPD. Although EN 16757 allows for the inclusion of carbonation of concrete during the use stage, this EPD has opted not to include carbonation effects within the system boundaries.

Data quality and data collection:

The EPD is based on data collected by Dubai Precast from its manufacturing facility over one year starting from January 2025 to December 2025. The EPD is representative of the production of 1 kg of Ready-Mix Concrete. The use and end-of-life stages of the EPD primarily reflect typical conditions across Global. Background data was sourced from the Ecoinvent 3.12 database. It shall be noted that there is no use of poor or very poor data, or fair data with > 30% impacts for any of the indicators assessed of relevant datasets using EN 15804:2012+A2:2019, Annex E, with all data meeting at least the E.2 quality level.

Process	Source Type	Source	Reference Year	Data Category	Share of primary data, of GWP-GHG results for A1-A3
Manufacturing of product	Collected data	EPD Owner	2025	Primary data	0.7%
Generation of electricity used in manufacturing of product	Collected data	EPD Owner	2025	Primary data	0.5%
Transport of raw materials and packaging to the production site	Collected data	EPD Owner	2025	Primary data	14.8%
Production of Microsilica	Database + collected quantities	EPD Owner + Ecoinvent v3.12	2025	Representative secondary data	0%
Production of Water	Database + collected quantities	EPD Owner + Ecoinvent v3.12	2025	Representative secondary data	0%
Production of GGBFS	Database + collected quantities	Ecoinvent v3.12	2025	Representative secondary data	0%
Production of Aggregates	Database + collected quantities	Ecoinvent v3.12	2025	Representative secondary data	0%

Production of sand	Database + collected quantities	Ecoinvent v3.12	2025	Representative secondary data	0%
Production of Admixtures	Database + collected quantities	EPD Owner + Ecoinvent v3.12	2025	Representative secondary data	0%
Production of Cement	Database + collected quantities	EPD Owner + Ecoinvent v3.12	2025	Representative secondary data	0%
Total share of primary data, of GWP-GHG results for A1-A3					16.0%

Allocation:

Allocation between products was not required, as the production system is dedicated to the manufacture of the declared precast concrete products and no co-products or multi-output processes were identified within the A1-A3 system boundary.

However, adjustments were made to site utility consumption to ensure that only production-related inputs were included in the life cycle inventory. For electricity, 90% of the total site electricity consumption was considered, with the remaining 10% excluded as it was attributed to miscellaneous and non-production activities. Similarly, for water consumption, 75% of the total site water use was included in the assessment, representing water used for production processes, while the remaining 25% associated with non-production activities was excluded.

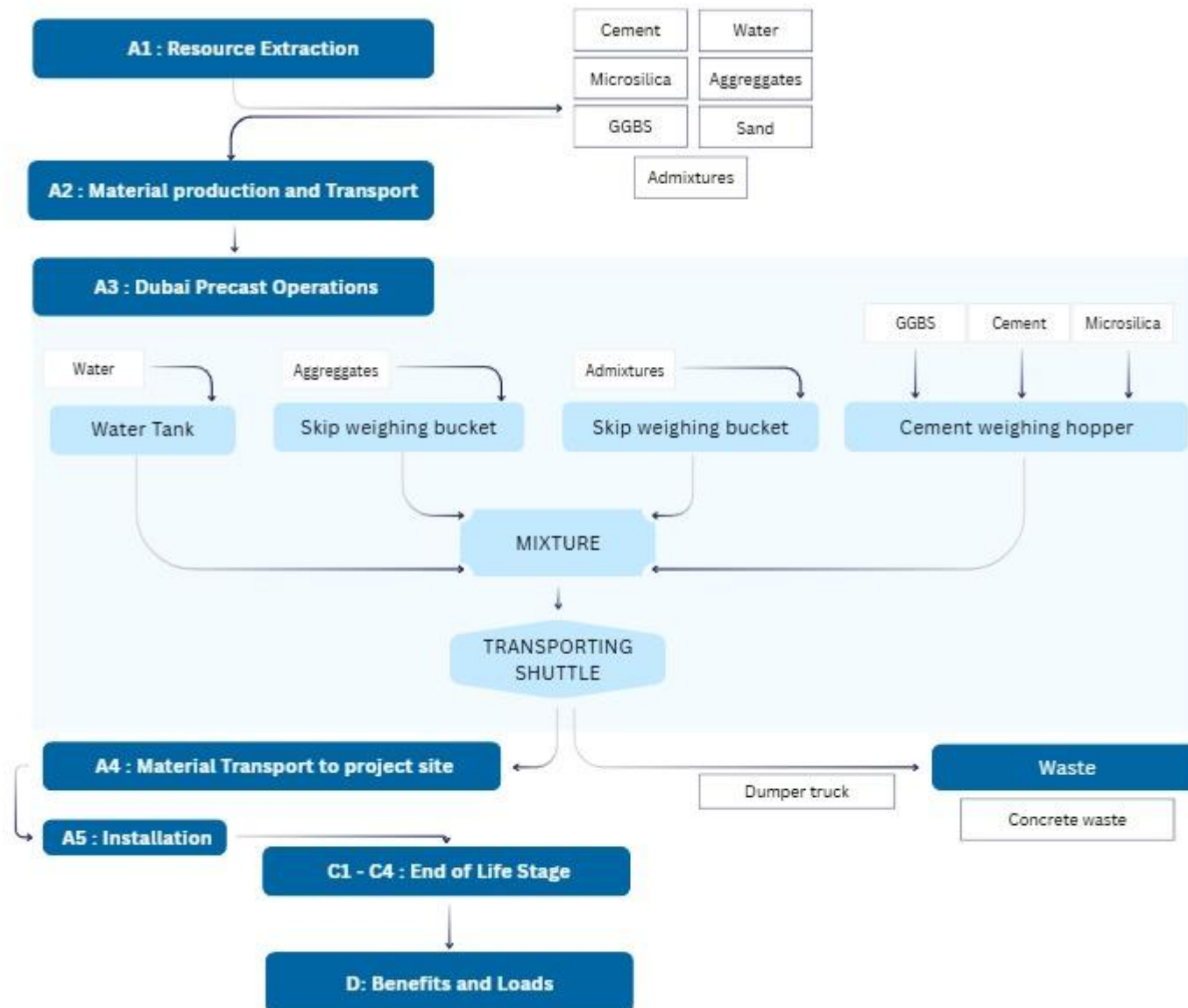
Background datasets were obtained from the Ecoinvent v3.12 database using the default modelling approaches provided within the database. No allocation of environmental burdens between products or co-products was applied.

This approach ensures transparency, consistency, and compliance with ISO 14044, EN 15804, and the applicable Product Category Rules (PCR)

Cut-Off-Rules:

In cases where sufficient information is not available, material inputs contributing less than 0.1% of the total product mass may be excluded, provided they do not cause significant environmental impacts. The total of all excluded inputs does not exceed 5% of the total mass or emissions. Flows related to human activities (e.g. employee transport) and the construction of plants, machinery, and transport infrastructure are excluded, as their impacts are negligible over the lifetime of the production system.

Process flow diagram:



Product Stage:

A1. RAW MATERIAL EXTRACTION:

The primary raw materials used in the production of Dubai Precast concrete products include Ordinary Portland Cement (OPC), Ground Granulated Blast Furnace Slag (GGBS), Microsilica (MS), fine and coarse aggregates, water, and admixtures. This stage includes the extraction and processing of raw materials, cement and supplementary cementitious material production, aggregate quarrying and processing, admixture manufacturing, and the transportation of these materials to the Dubai Precast manufacturing facility. All upstream activities associated with raw material extraction, processing, and transportation are included within this stage.

A2. TRANSPORT:

This stage accounts for the transportation of raw materials to the manufacturing plant.

A3. MANUFACTURING:

This stage represents the complete manufacturing process of precast concrete products at the Dubai Precast facility. It begins with the receipt and storage of raw materials, including cement, supplementary cementitious materials (GGBS and Microsilica), aggregates, water, and admixtures. The materials are accurately weighed using automated batching systems and mixed to produce high-quality concrete.

The fresh concrete is then transported to the production area, where it is cast into moulds, compacted, and cured under controlled conditions to achieve the required mechanical properties and durability. After curing, the precast elements are demoulded, finished, inspected for quality, and stored prior to dispatch to customers.

This module contains:

- Electricity consumed during concrete batching, casting, curing, finishing, material handling, and other manufacturing operations, modelled using the UAE electricity grid mix.
- Diesel purchased for the boiler, used to support the manufacturing process.
- Transportation of manufacturing waste to landfill.
- Landfill disposal and associated emissions from waste generated during the manufacturing process.

A4. TRANSPORT

This stage involves the transportation/delivery of Ready-mix Concrete to the project site.

Construction Process Stage

For Ready-Mix Concrete, it is assumed that the product within UAE, with an average transport distance of 75 km by road. Transportation is modelled using a diesel-powered freight lorry (market for transport, freight, lorry, >32 metric ton, diesel, EURO 3).

This approach allows EPD users to extrapolate the results of Module A4 to other project locations by adjusting the transportation distance accordingly. The table below describes the transportation scenario considered for Module A4.

A5. INSTALLATION:

No electricity, fuel, water or direct emissions are generated during this module. Therefore, the environmental impacts for Module A5 are reported as zero.

B1 TO B7: USE STAGE

The use stage (B1-B7), excluding potential savings, is divided into the following modules:

- **B1:** Use
- **B2:** Maintenance
- **B3:** Repair
- **B4:** Replacement
- **B5:** Refurbishment
- **B6:** Operational energy use
- **B7:** Operational water use

The product is assumed to have a product life span of 50 years, during which it remains in place without requiring maintenance, repair, replacement, or refurbishment. Therefore, modules B1-B7 are reported as zero.

C1: DEMOLITION

The demolition stage assumes the use of diesel-powered demolition equipment for the removal of the precast concrete products at the end of their service life. For the declared unit, 19 MJ of diesel is assumed to be consumed by demolition vehicles during the demolition process. The environmental impacts associated with the combustion of diesel, including fuel consumption and direct emissions from demolition activities, are included within this module.

C2: WASTE TRANSPORT

This stage represents the transportation of Ready-Mix Concrete waste generated at the end of the product's service life from the demolition site to the final disposal facility. It is assumed that 100% of the demolished precast concrete waste is transported to a landfill over an average distance of 80 km.

C3: WASTE PROCESSING:

No waste processing is carried out for the declared Ready-Mix Concrete products at the end of their service life. It is assumed that 100% of the demolition waste is transported directly to a landfill without any intermediate processing, sorting, or recovery operations. Therefore, no environmental impacts are associated with waste processing in this module, and the impacts reported for Module C3 are zero.

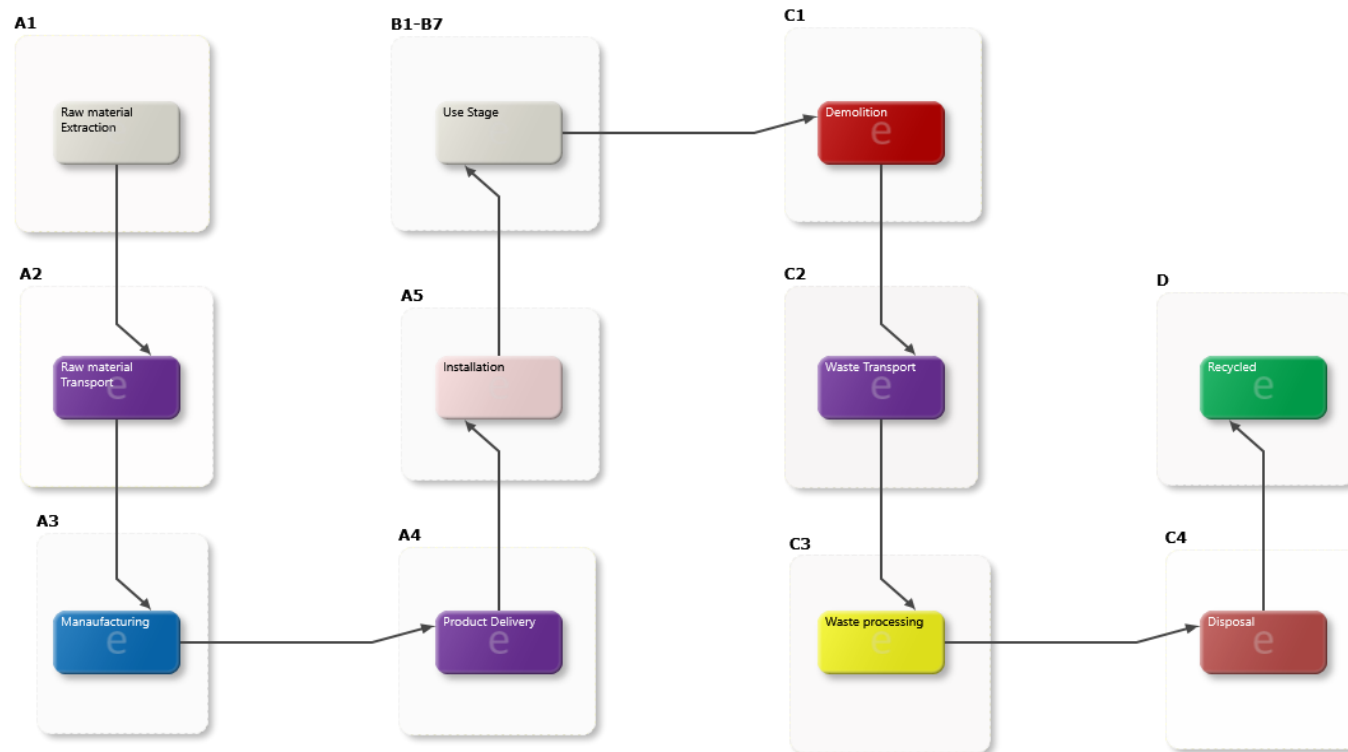
C4: DISPOSAL:

This stage represents the final disposal of the precast concrete waste at the end of the product's service life. It is assumed that 100% of the demolished precast concrete waste is disposed of in a landfill. The landfill disposal process, including all associated emissions and environmental impacts related to the final disposal of the waste, is accounted for within this module.

D: REUSE, RECYCLING & RECOVERY:

No benefits or loads beyond the system boundary are associated with the declared precast concrete products. It is assumed that 100% of the demolished concrete waste is disposed of in a landfill, with no reuse, recycling, or energy recovery taking place at the end of the product's service life. Therefore, no credits or environmental benefits are reported for Module D, and all environmental impacts for this module are zero.

LCA SOFTWARE ANALYSIS: Air.e V3.21.1.2



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

	Product stage			Distribution/ installation stage		Use stage							End-of-life stage				Beyond product life cycle
	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	GLO	GLO	UAE	GLO	GLO	GLO	GLO	GLO	GLO	GLO	GLO	GLO	GLO	GLO	GLO	GLO	GLO
Share of primary data	16.0%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation - products	-10%, +6%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation - sites	0%			-	-	-	-	-	-	-	-	-	-	-	-	-	-

Included = "X"; Excluded/Not Declared = "ND"; United Arab Emirates = "UAE"

Since all products use the same raw material composition, the main contributors to Global Warming Potential (GWP) remain unchanged. The design variation only causes minor differences in processing or energy use, which have a limited impact on total emissions. Therefore, the variation in GHG emissions does not exceed 10%.

ENVIRONMENTAL PERFORMANCE

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

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. If the EPD covers the end-of-life stage: "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)."

Results per declared unit – 1 Cubic meter of Ready-mix concrete																
Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-fossil	kg CO ₂ eq.	2.89E+02	2.10E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.91E+00	2.24E+01	0.00E+00	1.56E+01	0.00E+00
GWP-biogenic	kg CO ₂ eq.	2.55E-01	4.83E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.89E-04	5.15E-03	0.00E+00	4.80E-03	0.00E+00
GWP-luluc	kg CO ₂ eq.	9.76E-02	9.30E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.93E-04	9.92E-03	0.00E+00	8.86E-03	0.00E+00
GWP-total	kg CO ₂ eq.	2.89E+02	2.10E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.91E+00	2.24E+01	0.00E+00	1.56E+01	0.00E+00
ODP	kg CFC 11 eq.	3.12E-06	3.07E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.94E-08	3.28E-07	0.00E+00	4.55E-07	0.00E+00
AP	mol H ⁺ eq.	1.12E+00	1.21E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.71E-02	1.29E-01	0.00E+00	1.07E-01	0.00E+00
EP-freshwater	kg P eq.	3.62E-02	2.28E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.13E-05	2.43E-03	0.00E+00	1.37E-03	0.00E+00
EP-marine	kg N eq.	3.45E-01	4.94E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.02E-03	5.26E-02	0.00E+00	4.28E-02	0.00E+00
EP-terrestrial	mol N eq.	3.80E+00	5.34E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.75E-02	5.70E-01	0.00E+00	4.63E-01	0.00E+00
POCP	kg NMVOC eq.	1.16E+00	1.74E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.63E-02	1.86E-01	0.00E+00	1.67E-01	0.00E+00
ADP minerals & metals*	kg Sb eq.	9.91E-04	5.81E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.75E-07	6.19E-05	0.00E+00	2.31E-05	0.00E+00
ADP-fossil*	MJ	1.87E+03	2.76E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.30E+01	2.95E+02	0.00E+00	3.47E+02	0.00E+00
WDP*	m ³	4.70E+01	1.82E+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	6.78E-02	1.94E+00	0.00E+00	1.69E+01	0.00E+00
Acronyms	GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP – minerals & metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption															

* Disclaimer: The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.

Additional mandatory and voluntary impact category indicators

Results per declared unit - 1 Cubic meter of Ready-mix concrete																
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.	2.89E+02	2.10E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.91E+00	2.24E+01	0.00E+00	1.56E+01	0.00E+00
Acronyms	GWP-GHG = Potential global warming - Greenhouse Gases															

Resource use indicators

Results per declared unit - 1 Cubic meter of Ready-mix concrete																
Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
PERE	MJ	1.10E+02	4.15E+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	1.55E-01	4.42E+00	0.00E+00	3.54E+00	0.00E+00
PERM	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	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ	1.10E+02	4.15E+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	1.55E-01	4.42E+00	0.00E+00	3.54E+00	0.00E+00
PENRE	MJ	2.26E+03	3.02E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.48E+01	3.22E+02	0.00E+00	3.80E+02	0.00E+00
PENRM	MJ	5.59E+01	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	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PENRT	MJ	2.31E+03	3.02E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.48E+01	3.22E+02	0.00E+00	3.80E+02	0.00E+00
SM	kg	7.64E-01	1.25E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.03E-02	1.33E-01	0.00E+00	9.45E-02	0.00E+00
RSF	MJ	5.04E-02	1.63E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.70E-05	1.73E-03	0.00E+00	1.98E-03	0.00E+00
NRSF	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	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	m ³	1.14E+00	4.42E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.65E-03	4.71E-02	0.00E+00	3.94E-01	0.00E+00
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 declared unit – 1 kg of Ready-mix concrete																
Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Hazardous waste disposed	kg	2.71E+01	1.91E+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	8.05E-02	2.04E+00	0.00E+00	1.24E+00	0.00E+00
Non-hazardous waste disposed	kg	5.17E+02	3.77E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.01E-01	4.02E+01	0.00E+00	2.50E+03	0.00E+00
Radioactive waste disposed	kg	1.37E-03	5.98E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.44E-06	6.38E-05	0.00E+00	5.18E-05	0.00E+00

Output flow indicators

Results per declared unit – 1 kg of Ready-mix concrete																
Indicator	Unit	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	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	0.00E+00	0.00E+00
Material for recycling	kg	1.05E-01	8.17E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.32E-04	8.72E-03	0.00E+00	1.28E-02	0.00E+00
Materials for energy recovery	kg	3.79E-04	1.34E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.34E-07	1.43E-05	0.00E+00	6.88E-06	0.00E+00
Exported energy, electricity	MJ	8.09E-01	2.78E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.17E-03	2.97E-02	0.00E+00	2.35E-02	0.00E+00
Exported energy, thermal	MJ	5.35E-01	3.12E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.51E-04	3.33E-02	0.00E+00	1.31E-02	0.00E+00

Additional Environmental Indicators

Results per declared unit – 1 kg of Ready-mix concrete																
Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
PM	D.I.	1.48E-05	2.54E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.88E-07	2.71E-06	0.00E+00	2.52E-06	0.00E+00
IRP**	kBq U235e	5.60E+00	2.50E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.04E-02	2.67E-01	0.00E+00	2.20E-01	0.00E+00
FETP*	CTUe	8.99E+02	6.25E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.52E+00	6.67E+01	0.00E+00	4.75E+01	0.00E+00
HTC-c*	CTUh	6.49E-08	6.78E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.83E-10	7.24E-09	0.00E+00	2.73E-09	0.00E+00
HTC-nc*	CTUh	8.32E-06	2.26E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.26E-09	2.41E-07	0.00E+00	6.60E-08	0.00E+00
LUP*	pt	3.18E+03	2.97E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.71E+00	3.17E+02	0.00E+00	7.51E+02	0.00E+00
Acronyms		PM= Particulate Matter emissions; IRP= Ionizing radiation, Human Health; ETP-fw= Eco-toxicity; HTP-c= Human toxicity, cancer effects; HTP-nc= Human toxicity, non-cancer Effects; LUP= Land use related impacts														

* Disclaimer: The results of this environmental impact indicator shall be used with care as the uncertainties of these results are high or as there is limited experience with the indicator.

** Disclaimer: 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.

ABBREVIATIONS

ADP	Abiotic Depletion Potential	FU	Functional Unit
EN	European Norm (Standard)	FW	Fresh Water
EF	Environmental Footprint	PENRE	Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials
ISO	International Organization for Standardization	PENRM	Use of non-renewable primary energy resources used as raw materials
CEN	European Committee for Standardization	PENRT	Total use of non-renewable primary energy re-sources
CPC	Central product classification	PERE	Use of renewable primary energy excluding renewable primary energy resources used as raw materials
GHS	Globally harmonized system of classification and labelling of chemicals	PERM	Use of renewable primary energy resources used as raw materials
SVHC	Substances of Very High Concern	PERT	Total use of renewable primary energy resources
ND	Not Declared	PM	Particulate Material
GHG	Greenhouse gas	POCP	Potential of Tropospheric Ozone
GWP	Global warming potential	RSF	Use of renewable secondary fuels
IRP	Ionising radiation Potential	RSL	Reference Service Life
LCA	Life cycle assessment	SM	Use of secondary material
NRSF	Use of non-renewable secondary fuels	UAE	United Arab Emirates
ODP	Depletion potential of the stratospheric ozone layer	GLO	Global
PCR	Product category rules	CO2	Carbon dioxide
UN	United Nations	CPR	Construction product regulation
WDP	Water Deprivation Potential	EP	Eutrophication potential
AP	Acidification Potential	EPD	Environmental product declaration

VERSION HISTORY

Original version of the EPD 2026-10-29

REFERENCES

- Ecoinvent database (v3.12) - www.ecoinvent.ch
- EN 15804:2012 + A1:2013 and EN 15804:2012 + A2:2019 - Sustainability of construction works - Environmental Product Declarations - Core rules for the product category of construction products.
- EN ISO 14025: EN ISO 14025:2011-10 Environmental labels and declarations - Type III environmental declarations - Principles and procedures
- EN ISO 14040: EN ISO 14040:2009-11 Environmental management - Life cycle assessment - Principles and framework
- EN ISO 14044: EN ISO 14044:2006-10 Environmental management - Life cycle assessment -Requirements and guidelines
- Air.e V3.21.1.2