ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

EPD HUB, HUB-4873
Published on 16.01.2026, last updated on 16.01.2026, valid until 15.07.2027

C35 Mpa (43%OPC + 50%GGBFS + 7%MS) + 0.9 Kg FIBER

Soliman Bin Saleh Al-Mohileb Co

MANUFACTURER AND SITE

Manufacturer	Soliman Bin Saleh Al-Mohileb Co
Address	logistics area of the line project , Duba, Tabuk, SA
Contact details	info@almohileb.net
Website	https://almohileb.net/eng/
Place of production	Oxagon, Saudi Arabia
Place(s) of raw material origin	Saudi Arabia
Place(s) of installation and use	Saudi Arabia
Period for data	09.09.2025 to 13.12.2025

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	Design phase EPD
Parent EPD number	-
Scope of the EPD	Cradle to gate with modules C1-C4, D
EPD author	Ahmad Ibraheeh
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal verification ☑ External verification
EPD verifier	HaiHa Nguyen, as an authorized verifier acting for EPD Hub Limited

PRODUCT SPECIFICATION

Product name	C35 Mpa (43%OPC + 50%GGBFS + 7%MS) + 0.9 Kg FIBER
Concrete type	Ready-mix concrete
Product standards	EN 206
Additional characteristic	
Product description	C35 Cement/ Combination OPC, GGBFS & MS Min./Max. Cement Content (kg/m3) used in structural components
A1-A3 Specific data (%)	6,88

PRODUCT CHARACTERISTICS

Compressive strength class:
C35/45

Strength evaluation days:
28 days

Exposure class:
XC1

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 cubic meter
Declared unit mass, kg	2444
GWP-total, A1-A3 (kg CO_2e)	2,14E+02
GWP-fossil, A1-A3 (kg CO_2e)	2,14E+02
Secondary material, inputs (%)	0,02
Secondary material, outputs (%)	70
Total energy use, A1-A3 (kWh)	412
Net freshwater use, A1-A3 (m^3)	1,27E+00

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.

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	MND	MND	MND	MND	MND	MND	MND	MND	MND	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

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

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, and packaging 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
Metals	0	
Minerals	99,80	KSA
Fossil materials	0,2	KSA
Bio-based materials	0	

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

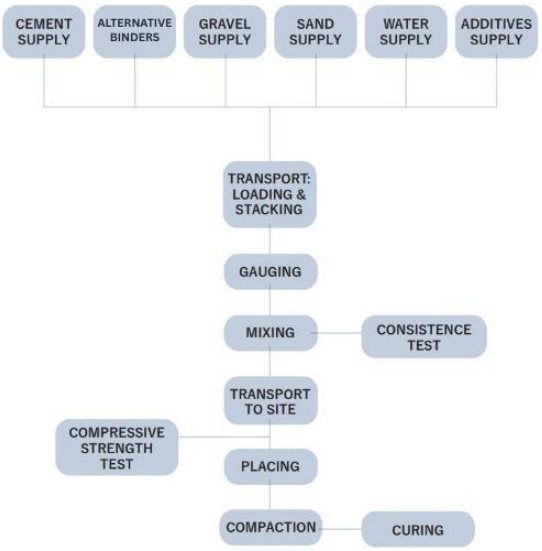
MANUFACTURING (A1-A3)

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.
The use of green energy in manufacturing is demonstrated through contractual instruments (GOs, RECs, etc.), and its use is ensured throughout the validity period of this EPD.

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



TRANSPORT AND INSTALLATION (A4-A5)

The concrete is transported to the building site using an average lorry. Transportation impacts occurred from final products delivery to construction site cover fuel direct exhaust emissions, environmental impacts of fuel production, as well as related infrastructure emissions (A4).

Installation includes the energy used for concrete application. This consists of the energy spent by a concrete mixer truck and a concrete pump.
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

The LCA and EPD have been prepared according to the reference standards and ISO 14040/14044. Ecoinvent v3.10.1 and One Click LCA databases were used 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

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_2e	2,00E+02	6,50E+00	8,31E+00	2,14E+02	ND	ND	ND	ND	ND	ND	ND	ND	ND	4,65E+00	1,32E+01	7,49E+00	4,58E+00	-1,33E+01
GWP – fossil	kg CO_2e	1,99E+02	6,50E+00	8,31E+00	2,14E+02	ND	ND	ND	ND	ND	ND	ND	ND	ND	4,65E+00	1,32E+01	7,49E+00	4,58E+00	-1,33E+01
GWP – biogenic	kg CO_2e	1,48E-01	1,47E-03	7,81E-04	1,50E-01	ND	ND	ND	ND	ND	ND	ND	ND	ND	4,74E-04	2,98E-03	-7,64E-04	-1,46E-03	-4,18E-02
GWP – LULUC	kg CO_2e	1,14E-01	2,91E-03	7,53E-04	1,18E-01	ND	ND	ND	ND	ND	ND	ND	ND	ND	4,76E-04	5,88E-03	7,67E-04	2,62E-03	-1,84E-02
Ozone depletion pot.	kg CFC_{-11}e	1,25E-06	9,60E-08	1,55E-07	1,50E-06	ND	ND	ND	ND	ND	ND	ND	ND	ND	7,12E-08	1,94E-07	1,15E-07	1,33E-07	-1,12E-06
Acidification potential	mol H^+e	6,61E-01	2,28E-02	1,03E-01	7,87E-01	ND	ND	ND	ND	ND	ND	ND	ND	ND	4,20E-02	4,48E-02	6,76E-02	3,24E-02	-8,70E-02
EP-freshwater[2)]	kg Pe	2,52E-02	5,06E-04	1,70E-04	2,59E-02	ND	ND	ND	ND	ND	ND	ND	ND	ND	1,34E-04	1,02E-03	2,16E-04	3,76E-04	-7,88E-04
EP-marine	kg Ne	1,77E-01	7,64E-03	4,72E-02	2,32E-01	ND	ND	ND	ND	ND	ND	ND	ND	ND	1,95E-02	1,47E-02	3,13E-02	1,24E-02	-1,88E-02
EP-terrestrial	mol Ne	1,99E+00	8,32E-02	5,17E-01	2,59E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	2,13E-01	1,60E-01	3,43E-01	1,35E-01	-2,46E-01
POCP ("smog")[3)]	kg NMVOCe	5,75E-01	3,36E-02	1,45E-01	7,53E-01	ND	ND	ND	ND	ND	ND	ND	ND	ND	6,36E-02	6,61E-02	1,02E-01	4,84E-02	-6,31E-02
ADP-minerals & metals[4)]	kg Sbe	1,49E-03	1,81E-05	4,42E-06	1,51E-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	1,67E-06	3,67E-05	2,68E-06	7,27E-06	-1,34E-04
ADP-fossil resources	MJ	1,25E+03	9,44E+01	1,08E+02	1,45E+03	ND	ND	ND	ND	ND	ND	ND	ND	ND	6,08E+01	1,91E+02	9,79E+01	1,12E+02	-1,98E+02
Water use[5)]	m^3e depr.	5,54E+01	4,66E-01	1,81E-01	5,60E+01	ND	ND	ND	ND	ND	ND	ND	ND	ND	1,52E-01	9,43E-01	2,45E-01	3,24E-01	-2,63E+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	7,58E-06	6,58E-07	1,99E-07	8,43E-06	ND	ND	ND	ND	ND	ND	ND	ND	ND	1,19E-06	1,32E-06	1,46E-05	7,39E-07	-1,12E-06
Ionizing radiation[6)]	kBq U235e	3,51E+04	8,21E-02	4,02E-02	3,51E+04	ND	ND	ND	ND	ND	ND	ND	ND	ND	2,69E-02	1,66E-01	4,34E-02	7,06E-02	-3,14E+00
Ecotoxicity (freshwater)	CTUe	4,08E+02	1,33E+01	5,60E+00	4,27E+02	ND	ND	ND	ND	ND	ND	ND	ND	ND	3,35E+00	2,70E+01	5,39E+00	9,42E+00	-2,37E+02
Human toxicity, cancer	CTUh	5,62E-08	1,12E-09	5,12E-10	5,78E-08	ND	ND	ND	ND	ND	ND	ND	ND	ND	4,78E-10	2,17E-09	7,70E-10	8,44E-10	-1,38E-08
Human tox. non-cancer	CTUh	1,34E-06	6,16E-08	2,10E-08	1,42E-06	ND	ND	ND	ND	ND	ND	ND	ND	ND	7,57E-09	1,24E-07	1,22E-08	1,94E-08	-2,53E-07
SQP[7)]	-	2,39E+03	9,50E+01	8,30E+00	2,50E+03	ND	ND	ND	ND	ND	ND	ND	ND	ND	4,26E+00	1,92E+02	6,86E+00	2,21E+02	-1,91E+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	6,90E+01	1,29E+00	5,47E-01	7,09E+01	ND	ND	ND	ND	ND	ND	ND	ND	ND	3,85E-01	2,62E+00	6,20E-01	1,08E+00	-1,96E+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	6,90E+01	1,29E+00	5,47E-01	7,09E+01	ND	ND	ND	ND	ND	ND	ND	ND	ND	3,85E-01	2,62E+00	6,20E-01	1,08E+00	-1,96E+01
Non-re. PER as energy	MJ	1,21E+03	9,44E+01	1,08E+02	1,41E+03	ND	ND	ND	ND	ND	ND	ND	ND	ND	6,08E+01	1,91E+02	9,79E+01	1,12E+02	-2,03E+02
Non-re. 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 non-re. PER	MJ	1,21E+03	9,44E+01	1,08E+02	1,41E+03	ND	ND	ND	ND	ND	ND	ND	ND	ND	6,08E+01	1,91E+02	9,79E+01	1,12E+02	-2,03E+02
Secondary materials	kg	3,88E-01	4,01E-02	1,59E-02	4,44E-01	ND	ND	ND	ND	ND	ND	ND	ND	ND	2,53E-02	8,13E-02	4,07E-02	2,82E-02	-2,29E-01
Renew. secondary fuels	MJ	5,70E-03	5,10E-04	7,99E-05	6,29E-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	6,60E-05	1,03E-03	1,06E-04	5,85E-04	-1,58E-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	1,13E+00	1,39E-02	1,30E-01	1,27E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	4,02E-03	2,82E-02	6,47E-03	1,17E-01	-6,12E-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	6,82E+00	1,60E-01	6,17E-02	7,04E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	6,77E-02	3,23E-01	1,09E-01	1,24E-01	-1,54E+00
Non-hazardous waste	kg	1,41E+02	2,96E+00	3,52E+00	1,47E+02	ND	ND	ND	ND	ND	ND	ND	ND	ND	9,23E-01	5,98E+00	1,49E+00	2,84E+00	-2,85E+01
Radioactive waste	kg	8,61E-04	2,01E-05	9,71E-06	8,91E-04	ND	ND	ND	ND	ND	ND	ND	ND	ND	6,61E-06	4,07E-05	1,06E-05	1,72E-05	-3,93E-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	4,26E-10	0,00E+00	4,89E+00	4,89E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	1,71E+03	0,00E+00	0,00E+00
Materials for energy rec	Kg	2,23E-18	0,00E+00	0,00E+00	2,23E-18	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

SCENARIO DOCUMENTATION

DATA SOURCES

Manufacturing energy scenario documentation – A3 (Energy data source)

1. Energy supply, electricity production, other, Diesel, burned in diesel-electric generating set, 10MW, World, ecoinvent 3.10.1, 0.0950 kgCO2e/MJ
2. Manufacturing, coke and refined petroleum products, coke oven products, Lubricating oil production, World, ecoinvent 3.10.1, 1.75 kgCO2e/kg
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 waste	2444
Recovery process – kg for re-use	0
Recovery process – kg for recycling	1,71E+03
Recovery process – kg for energy recovery	0
Disposal (total) – kg for final deposition	7,33E+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 15802+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