

# Environmental Product Declaration



ENVIRONMENTAL FOOTPRINT INSTITUTE

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

## Concrete Masonry Thermal Blocks

From

**Mansoor Concrete Block Industry LLC (MaCon)**



<b>Programme :</b>	<b>The EFI Program</b>
<b>Programme Operator :</b>	<b>The Environment Footprint Institute</b>
<b>EPD Registration No :</b>	<b>260404EPD CPR-3100</b>
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<b>Valid Until :</b>	<b>13-04-2031</b>
<b>Geographical Scope :</b>	<b>United Arab Emirates</b>
<b>Reference Year :</b>	<b>2026</b>



An EPD should provide current information and may be updated if conditions change. The stated validity is therefore subject to the continued registration and publication at Mansoor Concrete Block Industry LLC (MaCon)

## General Information

Programme :	The EFI Programme
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<b>Product Category Rules (PCR)</b>	
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PCR review was conducted by: The Environmental Footprint Institute.	
Product category rules (PCR): Under the general rules of the Environmental Footprint Institute and PCR P-3100: Construction products in general (EN-15804)	
PCR review was conducted by: Environmental Footprint Institute	
<b>Life Cycle Assessment (LCA)</b>	
LCA accountability: CQES International LLC	
<input type="checkbox"/> Internal Verification	<input checked="" type="checkbox"/> Third Party Verification
Accredited by: THE ENVIRONMENTAL FOOTPRINT INSTITUTE	
<b>Third party verifier:</b> Iván Jiménez Calle Circe 49A Madrid, Spain  <a href="http://www.environmentalfootprintinstitute.com">www.environmentalfootprintinstitute.com</a> <a href="mailto:info@environmentalfootprintinstitute.com">info@environmentalfootprintinstitute.com</a>	
	
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Procedure for follow-up of data during EPD validity involves Internal verifier: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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.

## Company Information

Owner of the EPD :

**Mansoor Concrete Block Industry LLC (MaCon)**

Contact : Muhammed Shinas

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Mansoor Concrete Block Industry LLC (MaCon) is a Dubai Municipality registered concrete block manufacturing company having its office & factory situated at Jebel Ali industrial area No.1, Dubai - Abu Dhabi road.

Since its formation MaCon has been striving from strength to strength. Very early since our establishment in the year of 1999 we realized the importance of team work and have ensured that all key positions are held by well qualified and experienced personnel.

Though we established in the year of 1999, we have more than 20 years of experience in this field as an organized management group functioning in Dubai. With such a team in place and with product line and service that compliment each other, MaCon has led the way, often pioneering new methods to suit the ever expanding and highly competitive Dubai market.

Our extremely streamlined operation wings enable us to deliver our products on time to the discerning customers. A fleet of crane mounted trucks enable speedy delivery to ensure an all round time efficient delivery system.

## Certifications



The data and environmental performance presented in this EPD are supported by the company's certified management systems. Mansoor Concrete Block Industry LLC (MaCon) operates under ISO 14001 (Environmental Management), which ensures systematic identification, monitoring, and control of environmental aspects associated with concrete block production. In addition, ISO 9001 (Quality Management) and ISO 45001 (Occupational Health and Safety Management) certifications ensure that the product is manufactured under controlled, consistent, and safe operational conditions. Furthermore, the facility is certified under the Dubai Central Laboratory (DCL) product conformity scheme, confirming compliance of the concrete masonry Thermal Blocks with applicable UAE technical requirements. This integrated management and certification framework enhances the reliability, traceability, and robustness of the life cycle inventory data used in this EPD.

## Product Information

Product Name : **Concrete Masonry Thermal Blocks**

Product identification :

The results presented in this EPD are representative of all Concrete Masonry Thermal Blocks manufactured at the Mansoor Concrete Block Industry LLC (MaCon) production facility. The results are calculated on a per-ton basis, based on the total production volume and the aggregated consumption of raw materials, energy, and water, as well as the total generation of waste and emissions associated with concrete block manufacturing during the defined reference period.

UN CPC Code

UN CPC 37520 - Concrete blocks, bricks, and other masonry products"

Reference Service Life (RSL)

100 years (standard practice for concrete masonry products)

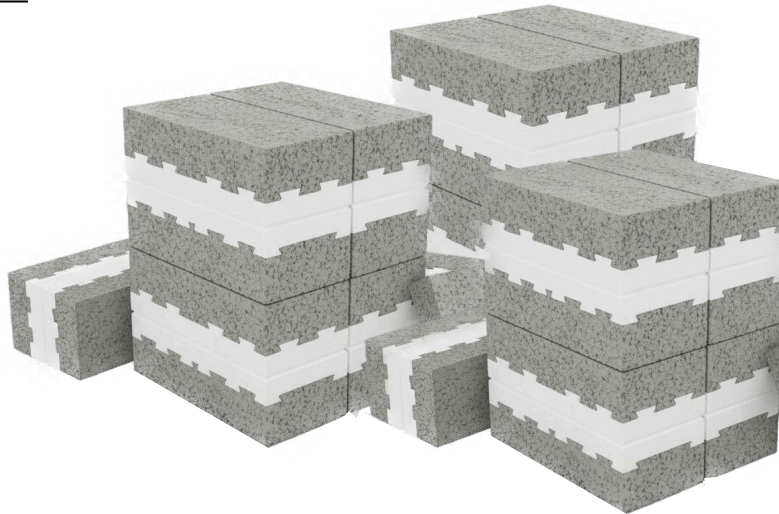
Geographical Scope

United Arab Emirates

Location of Production Site :

Jebel Ali Industrial Area No. 1, Dubai (UAE)

Product Picture :



Product Description :

Insulation Thermal Blocks are factory-produced concrete masonry units incorporating an integrated thermal insulation layer and are intended for use in load-bearing and non-load-bearing wall applications in buildings and civil engineering works. The products covered by this Environmental Product Declaration (EPD) are manufactured by Mansoor Concrete Block Industry LLC (MaCon) under controlled industrial conditions using a standardized manufacturing process comprising raw material batching, mixing, moulding, compaction, placement of insulation, curing, and storage. The main raw materials include cement, natural and/or manufactured aggregates, water, and, where applicable, lightweight aggregates, together with expanded polystyrene (EPS) insulation used to enhance thermal performance.

No hazardous substances are intentionally added during production.

The insulation thermal blocks are manufactured in standard modular dimensions of 400 mm (length) × 200 mm (height), with nominal thicknesses of 100 mm, 150 mm, 200 mm, 250 mm, and 300 mm (corresponding to 4", 6", 8", 10", and 12"), consistent with the product dimensions specified in the MaCon catalogue, and incorporate an integrated EPS insulation layer with nominal thicknesses of 60 mm, 110 mm, or 160 mm, depending on the product configuration.

Variations in block thickness, density, mix composition, and insulation configuration may occur within the product family; however, these variations are considered representative and are covered by the aggregated life cycle inventory data used for the calculation of environmental impacts in this EPD, in accordance with the requirements of EN 15804 and PCR P-3100.

## LCA Information

Declared Unit : The Declared Unit of the Life Cycle Assessment is one tonne (1,000 kg) of Concrete Masonry Thermal Blocks, manufactured at the Mansoor Concrete Block Industry LLC (MaCon) production facility. All environmental impacts and resource use are reported with reference to this declared unit, in accordance with EN 15804 requirements.

Time Representativeness : The Life Cycle Inventory (LCI) data used in this EPD are representative of production activities during the reference period from January 2025 to December 2025.

Database(s) and LCA software used: The LCA modelling and impact calculations were performed using Air. LCA™ software (version 3.20.1.0) in combination with the Ecoinvent™ database (version 3.11.0). The EN 15804 system model was applied for the assessment of environmental impacts, using the characterization factors from EN 15804:2012+A2:2019.

Electricity usage in A3 : A specific dataset with the Life Cycle Inventory (LCI) corresponding to the electricity mix in UAE, has been used for this LCA. 0.6279 kg CO<sub>2</sub>eq/kWh (GWP-GHG).

Cut-off rules: More than 99% of the materials and energy consumption have been included. The Polluter Pays Principle and the Modularity Principle have been followed.

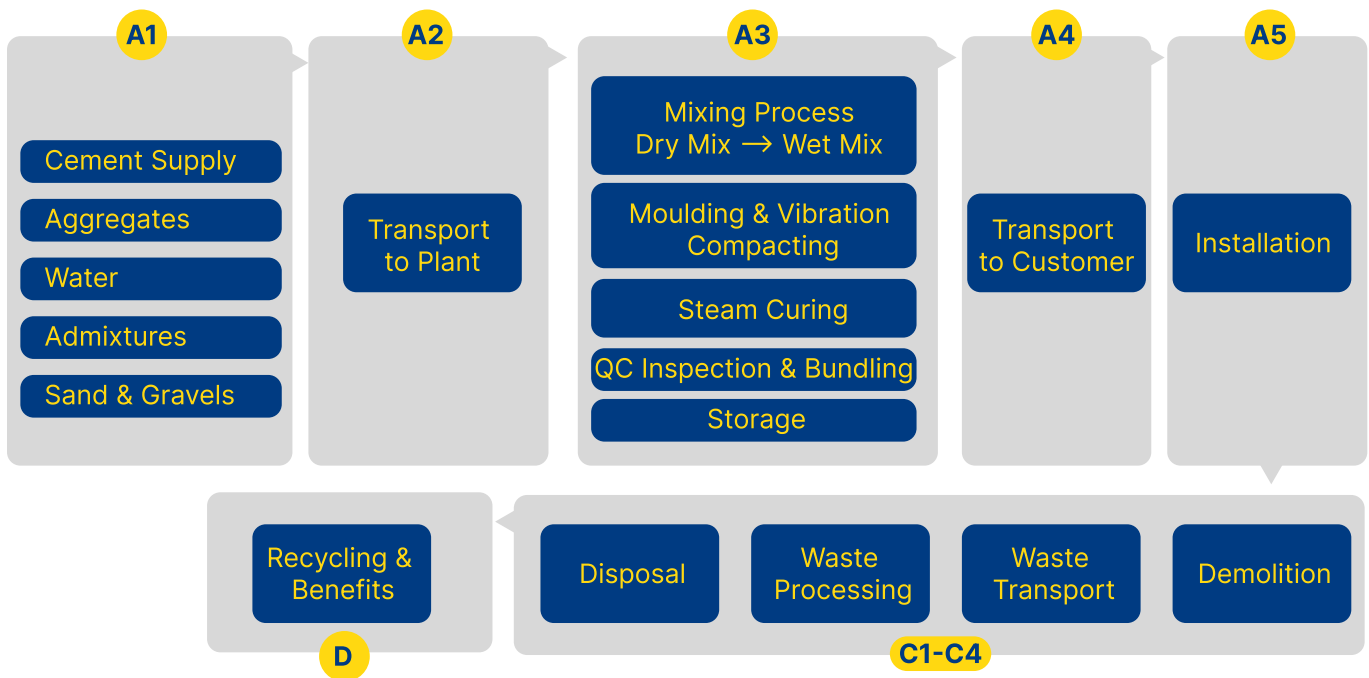
Allocation method: No allocation was required, as the production of Concrete Masonry Thermal Blocks does not generate co-products with economic value. Where background datasets required allocation, the allocation rules applied within the selected databases and system model were followed in accordance with EN 15804.

### Description of system boundaries:

This EPD follows a cradle-to-gate with options approach in accordance with EN 15804. It covers Modules A1–A3 (raw material supply, transport, and manufacturing), Module A4 (transport to the construction site), and Module A5 (installation at the construction site).

In addition, end-of-life Modules C1-C4 (deconstruction/demolition, transport, waste processing, and disposal) and Module D (benefits and loads beyond the system boundary) are included based on standardized and scenario-based assumptions applicable to Concrete Masonry Thermal Blocks.

Use-stage Modules B1-B7 are excluded, as Concrete Masonry Thermal Blocks are construction products whose environmental performance during the use phase depends on building-specific design, installation, and operating conditions, which are outside the declared scope of this EPD.



## Core Processes

### Upstream Stage

This stage includes the extraction, production, and transportation of raw materials used in the production of Concrete Masonry Blocks at Mansoor Concrete Block Industry LLC (MaCon).

A1-Raw Material Supply: The A1 module covers the extraction, processing, and upstream transportation of raw materials used in the production of Concrete Masonry Blocks. This includes Cement production, Gravel (5-10 mm and 0-5 mm) extraction and processing, Dune sand mining and preparation, Lecca aggregate production, Water and admixture preparation.

All raw materials are sourced locally within the UAE or imported through international suppliers. This stage also accounts for energy consumption and emissions from pre-processing activities prior to block production.

A2 - Transport: The A2 module includes the transportation of raw materials from their point of extraction or processing to the Mansoor Concrete Block Industry LLC (MaCon) manufacturing site in UAE. Transport of raw materials to production site is taken as the weight average values for transport from supplier for the year of 2025.

- Vehicle used for transport - 3.5-7.5t & >32t trucks, Euro 5
- Vehicle capacity - 3.5 -7.5 tons and 25 tons
- Fuel type and consumption - Diesel, 0.38 liters per km
- Capacity utilization (including empty poly cartages) - 50% as assumed in Eco invent
- Bulk transportation - Mass of the transported product.

## Core Stage

This stage includes the manufacturing of Concrete Masonry Blocks, encompassing material consumption, energy use, emissions, and waste treatment.

### A3 - Manufacturing:

The A3 stage covers all processes within the MaCon manufacturing facility from the receipt of raw materials to the final production of Concrete Masonry Blocks. This includes:

- Mixing of cement (Portland CEMI), gravel, sand, water, Lecca aggregate, and admixtures
- Energy consumption (electricity, diesel, etc.)
- Emissions to air and water
- Waste generation during production (e.g., 8,451 tons per year) and its treatment

### A4 - Transportation of Goods:

Stage A4 includes the transport of finished Concrete Masonry Blocks from the manufacturing facility to customers or distribution points. Transportation is carried out using Euro 5 diesel trucks, including 3.5–7.5 ton and >32 ton vehicles, with carrying capacities of 3.5–7.5 tons and 25 tons, respectively. Diesel consumption is assumed as 0.38 liters per km. Transport impacts are calculated based on the mass of the product and transport distance (ton-kilometer basis).

### A5 - Installation :

Module A5 includes activities related to the installation of concrete masonry blocks at the construction site. This module accounts for the handling and disposal of packaging waste, specifically nylon straps, which are collected and sent to recycling or disposal according to local waste management practices. Concrete masonry blocks are installed using cement mortar, with an average consumption of 0.25 tons of mortar per ton of blocks, based on standard masonry practice with 10 mm joints. The environmental impacts of both the blocks and the mortar used during installation are included in this module.

### C1 – Deconstruction / Demolition :

Module C1 covers the removal of Concrete Masonry Blocks from their installed location at the end of their service life. This includes dismantling and preparation for transport. No specific energy use for demolition is considered.

### C2 – Transport :

Module C2 includes the transportation of demolished concrete masonry blocks from the demolition site to recycling or disposal facilities. Transport is carried out using Euro 5 diesel trucks, including 3.5–7.5 ton and >32 ton vehicles, with carrying capacities of 3.5–7.5 tons and 25 tons, respectively. An average transport distance of 50 km by road is assumed. Transport impacts are calculated based on the mass of the transported material and distance (ton-kilometer basis).

### C3 – Waste Processing

Module C3 includes the processing of demolished blocks for reuse, recycling, or recovery. Activities include sorting and preparation. Energy required for sorting is assumed to be 0.05 kWh per kg of waste material (crushed concrete). A portion of the blocks may be crushed and reused as aggregate in other construction applications.

### C4 – Disposal :

The end-of-life scenario for concrete blocks in the UAE is based on the latest available regional waste stream analysis for construction and demolition waste (C&DW). Concrete and masonry fractions constitute approximately 80% of all C&DW by weight in the UAE (Dubai Municipality, 2019).

Despite national policies aiming for 75% diversion of C&DW from landfills, the recycling rate for the inert concrete/masonry fraction remains low, estimated at only 5% (ibid.). This 5% represents downcycling for use as fill material or sub-base in civil engineering projects. True closed-loop recycling into new concrete products is negligible. Therefore, a conservative distribution of 95% to landfill and 5% to recycling is used for this EPD. It is assumed that no incineration occurs for this inert mineral product.

#### Module D – Benefits and Loads Beyond the System Boundary :

The potential benefits from recycling (5% scenario) are calculated based on the avoidance of virgin aggregate production. The recycled concrete aggregate (RCA) is assumed to substitute for natural aggregate in road sub-base applications. The burdens (e.g., energy for crushing) for the 5% recycling scenario are included in Module C3. The disposal burdens for the 95% landfill scenario are in Module C4. Module D accounts for the credit from avoiding virgin aggregate production.

### More Information

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

Module	Product Stage			Construction Process Stage		Use Stage	End of life stage				Resource recovery stage
	Raw material supply	Transport	Manufacturing	Transport	Construction installation	Use, maintenance, repair, replacement, refurbishment, operational energy and water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential
	A1	A2	A3	A4	A5	B1-B7	C1	C2	C3	C4	D
Modules declared	X	X	X	X	X	ND	X	X	X	X	X
Geography	AE	AE	AE	AE	AE	--	AE	AE	AE	AE	AE
Specific data used	>90%			--	--	--	--	--	--	--	--

**Legend:** X = Included | ND = Not Declared | AE = United Arab Emirates

#### Assumptions :

This Environmental Product Declaration (EPD) is based on specific data for the 2025 production period at the Mansoor Concrete Block Industry LLC (MaCon) facility in Dubai, UAE. For the declared unit of one tonne (1,000 kg) of finished concrete blocks, the Life Cycle Inventory (LCI) accounts for a total production output of 29,243.781 tons and a corresponding production waste of 2,511 tons. This production waste (approximately 5% of input mass) comprises fresh concrete waste, off-specification units, and other manufacturing residues. It is assumed that 100% of this production waste is sent to landfill as inert construction and demolition waste, in accordance with standard local practice for non-recycled manufacturing scrap. The burdens of this disposal are included within Module A3 (waste processing for disposal). All other environmental flows are allocated to the finished product.

## Content Information

### Product Content:

Product Components	Weight %	Post-Consumer material weight -%	Biogenic material, kg C/kg
Cement	10-12	0	0
Aggregate (5-10 mm)	20-25	0	0
Aggregate (0-5 mm)	25-30	0	0
Dune Sand	5-10	0	0
Water	4-8	0	0
Aggregate (4-8 mm)	25-30	0	0
Admixtures	0.2-0.5	0	0
Polystyrene Sheet	0.2-0.5	0	0
Total	100	0	0

### Packaging Material Content:

Packaging Material	Weight (kg)/DU	Weight % (Versus the Product)	Weight biogenic carbon, kg C/kg
Nylon Straps	1.50E-04	1.50E-02	0.00E+00

### Dangerous substances from the candidate list of SVHC for Authorisation:

Dangerous substances from the candidate list of SVHC for Authorisation:	EC No.	CAS No.	Weight-% per declared unit
None	--	--	--
None	--	--	--

### Biogenic carbon content:

Biogenic carbon content	A1-A3/Unit
Biogenic carbon content in product	0.00E+00 kg C
Biogenic carbon content in accompanying packaging	0.00E+00 kg C

### Manufacturing Process:

The manufacturing process for the concrete block EPD (Modules A1-A3) begins with raw material batching, where aggregates from calibrated bins and cement are weighed per a specific mix design, transferred to an industrial mixer, and undergo sequential dry and wet mixing. The fresh concrete is then poured into moulds on a fully automatic machine, compacted via vibration, and the palletized green blocks are transferred to a steam curing chamber for approximately 24 hours. After curing, blocks are automatically bundled, tagged with a Lot identification system for traceability, and placed in yard storage; throughout production, QC inspectors verify mix properties and product dimensions, with all data recorded in inspection reports to ensure consistent quality and inform the life cycle inventory for material and energy inputs.

### Technical information:

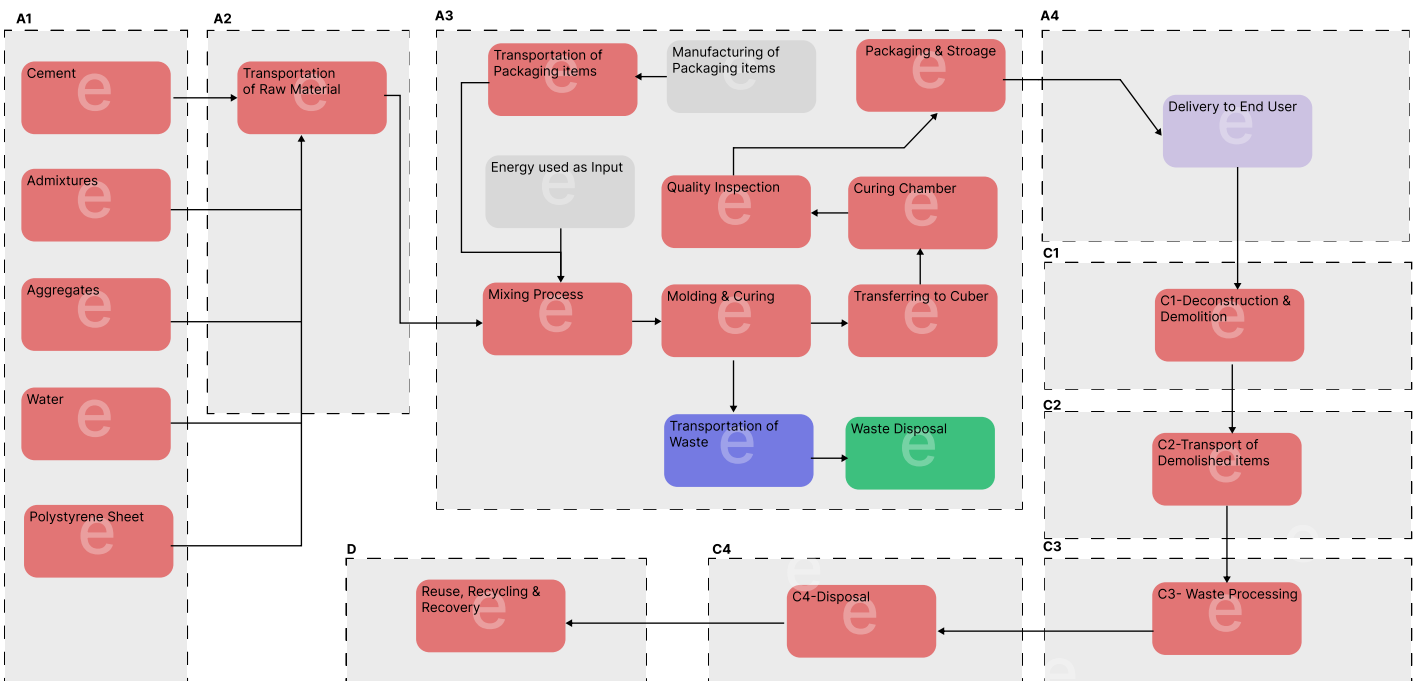
For more technical information about the Concrete Masonry Thermal Blocks, please refer to the product TDS

### Data quality:

This EPD was developed in compliance with ISO 14025, ISO 14040/14044, and the core rules of EN 15804:2012+A2:2019, following PCR-3100 for construction products (UN CPC 37520). Primary, site-specific data for the 2025 reference period were collected for raw material supply, transport, and manufacturing (Modules A1-A3) at the MaCon facility in Dubai, UAE. Background system data were sourced from the Ecoinvent 3.11.0 database.

The LCA was modelled using Air.e LCA software v3.20.1.0, applying EN 15804 characterization factors. Data quality objectives prioritized temporal, geographical, and technological representativeness, with over 90% of the mass and energy flows in Modules A1-A3 based on measured plant data.

## Life Cycle Assessment Modelling



## Environmental Performance

### Potential Environment Impacts

The following tables present the environmental performance for the declared unit of 1000 kg of Thermal concrete block" produced by Mansoor Concrete Block Industry LLC (MaCon). Due to the integrated nature of the fully automated production line, it was not feasible to isolate the consumption of electricity, water, and raw materials specifically for this product variant. Consequently, the life cycle inventory (LCI) was calculated by allocating the plant's total annual consumption of these inputs based on the mass (or volume) share of this product within the total production output.

The estimated impact results are only relative statements, which do not indicate the endpoints of the impact categories, exceeding thresholds values, safety margins or risks.

## Core Environmental Impact Indicators

Impact category indicators according to EN 15804 (Results per declared unit)																
Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-Total	kg CO <sub>2</sub> eq.	2.80E+02	3.42E+00	7.08E+01	ND	ND	ND	ND	ND	ND	ND	3.62E+00	9.90E+00	1.60E+01	5.95E+00	-1.84E+01
GWP-fossil	kg CO <sub>2</sub> eq.	2.80E+02	3.42E+00	6.95E+01	ND	ND	ND	ND	ND	ND	ND	3.62E+00	9.89E+00	1.59E+01	5.94E+00	-1.84E+01
GWP-biogenic	kg CO <sub>2</sub> eq.	1.76E-01	7.67E-04	1.23E+00	ND	ND	ND	ND	ND	ND	ND	3.61E-04	2.27E-03	1.76E-02	1.84E-03	-1.16E-02
GWP-luluc	kg CO <sub>2</sub> eq.	8.59E-02	1.53E-03	5.39E-02	ND	ND	ND	ND	ND	ND	ND	3.71E-04	4.54E-03	2.60E-02	3.41E-03	-1.35E-02
ODP	kg CFC 11 eq.	2.62E-06	4.33E-08	3.54E-07	ND	ND	ND	ND	ND	ND	ND	5.38E-08	1.34E-07	2.57E-07	1.66E-07	-1.99E-07
AP	mol H <sup>+</sup> eq.	9.33E-01	1.17E-02	2.60E-01	ND	ND	ND	ND	ND	ND	ND	3.24E-02	2.37E-02	1.20E-01	4.16E-02	-1.13E-01
EP-freshwater	kg P eq.	3.06E-02	3.74E-04	9.57E-03	ND	ND	ND	ND	ND	ND	ND	1.17E-04	1.08E-03	8.92E-03	5.20E-04	-4.09E-03
EP-marine	kg N eq.	2.78E-01	3.72E-03	7.56E-02	ND	ND	ND	ND	ND	ND	ND	1.51E-02	5.52E-03	3.96E-02	1.60E-02	-3.15E-02
EP-terrestrial	mol N eq.	3.05E+00	4.02E-02	8.18E-01	ND	ND	ND	ND	ND	ND	ND	1.65E-01	5.88E-02	4.27E-01	1.75E-01	-3.60E-01
POCP	kg NMVOC eq.	1.03E+00	1.58E-02	2.39E-01	ND	ND	ND	ND	ND	ND	ND	4.94E-02	3.21E-02	1.39E-01	6.30E-02	-1.10E-01
ADP-minerals & metals*	kg Sb eq.	9.00E-04	1.12E-05	1.84E-04	ND	ND	ND	ND	ND	ND	ND	1.26E-06	3.30E-05	4.09E-05	8.65E-06	-8.72E-05
ADP-fossil*	MJ	2.30E+03	4.31E+01	4.07E+02	ND	ND	ND	ND	ND	ND	ND	4.35E+01	1.25E+02	2.22E+02	1.33E+02	-2.50E+02
WDP*	m <sup>3</sup>	4.26E+01	2.68E-01	1.42E+01	ND	ND	ND	ND	ND	ND	ND	1.37E-01	7.99E-01	-6.24E+01	6.46E+00	-1.60E+01
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															

### Note on Declared Modules:

\*CO<sub>2</sub> emissions from fuel combustion in A3 were calculated using standard carbon content factors and the 44/12 molecular weight ratio, in accordance with IPCC guidelines.

## Use of Natural Resources

Resource use indicators (Results per declared unit)																
Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
PERE	MJ	7.53E+01	6.56E-01	-1.38E+00	ND	ND	ND	ND	ND	ND	ND	2.96E-01	1.93E+00	7.80E+00	1.36E+00	1.80E-02
PERM	MJ	0.00E+00	0.00E+00	1.38E+00	ND	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ	7.53E+01	6.56E-01	1.17E-03	ND	ND	ND	ND	ND	ND	ND	2.96E-01	1.93E+00	7.80E+00	1.36E+00	1.80E-02
PENRE	MJ	2.64E+03	4.72E+01	-8.39E-01	ND	ND	ND	ND	ND	ND	ND	4.72E+01	1.37E+02	2.52E+02	1.46E+02	2.86E+00
PENRM	MJ	1.02E+02	0.00E+00	9.01E-01	ND	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PENRT	MJ	2.74E+03	4.72E+01	6.18E-02	ND	ND	ND	ND	ND	ND	ND	4.72E+01	1.37E+02	2.52E+02	1.46E+02	2.86E+00
SM	kg	1.01E+00	2.08E-02	2.27E-05	ND	ND	ND	ND	ND	ND	ND	1.95E-02	6.12E-02	9.43E-02	3.62E-02	1.18E-03
RSF	MJ	6.26E-02	2.69E-04	3.80E-07	ND	ND	ND	ND	ND	ND	ND	5.12E-05	7.94E-04	1.15E-03	7.56E-04	3.10E-06
NRSF	MJ	5.76E-03	0.00E+00	0.00E+00	ND	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	m <sup>3</sup>	1.03E+00	6.53E-03	3.42E-01	ND	ND	ND	ND	ND	ND	ND	3.33E-03	1.95E-02	-1.45E+00	1.51E-01	2.02E-04
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															

## Environmental Impact -GWP-GHG

Additional mandatory and voluntary impact category indicators (Results per declared unit)																
Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-GHG	kg CO <sub>2</sub> eq.	2.82E+02	3.45E+00	7.13E+01	ND	ND	ND	ND	ND	ND	ND	3.68E+00	9.97E+00	1.62E+01	6.09E+00	2.23E-01

## End of Life - Outflows

Output flow indicators (Results per declared unit)																
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	ND	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Material for recycling	kg	6.00E-02	5.33E-04	1.07E-06	ND	ND	ND	ND	ND	ND	ND	2.10E-04	1.57E-03	6.64E-03	1.58E-03	1.27E-05
Materials for energy recovery	kg	2.37E-04	3.16E-06	4.32E-09	ND	ND	ND	ND	ND	ND	ND	6.70E-07	9.30E-06	1.55E-05	2.80E-06	4.07E-08
Exported energy, electricity	MJ	3.89E-01	3.95E-03	7.23E-06	ND	ND	ND	ND	ND	ND	ND	2.23E-03	1.16E-02	4.99E-02	9.45E-03	1.35E-04
Exported energy, thermal	MJ	3.62E-01	7.03E-03	6.75E-06	ND	ND	ND	ND	ND	ND	ND	1.05E-03	2.07E-02	2.01E-02	5.02E-03	6.34E-05

## End of Life - waste

Waste indicators (Results per functional or declared unit)																
Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Hazardous waste disposed	kg	8.76E+00	1.08E-01	1.33E+00	ND	ND	ND	ND	ND	ND	ND	5.29E-02	3.13E-01	6.69E-01	1.66E-01	3.21E-03
Non-hazardous waste disposed	kg	1.63E+02	2.08E+00	9.65E+00	ND	ND	ND	ND	ND	ND	ND	7.71E-01	6.03E+00	1.07E+03	3.83E+00	4.68E-02
Radioactive waste disposed	kg	9.41E-04	9.33E-06	1.79E-08	ND	ND	ND	ND	ND	ND	ND	4.93E-06	2.73E-05	1.04E-04	2.12E-05	2.99E-07

## Additional information

No additional information is provided.

## Information related to Sector EPD

This is not sector EPD.

## Differences versus previous versions

This is the first version of the EPD.

## References

*LCA Report: Life Cycle Inventory of Mansoor Concrete Block Industry LLC (MaCon), Dubai (UAE).*

*Software: Air.e LCA Version 3.20.1.0 [www.solidforest.com](http://www.solidforest.com)*

*Main database: Ecoinvent 3.11.0 [www.ecoinvent.org](http://www.ecoinvent.org)*

*Geographical scope of the EPD: United Arab Emirates*

*ISO 14040:2006 "Environmental management -- life cycle assessment -- principles and framework";*

*ISO 14044:2006 "Environmental management -- life cycle assessment -- requirements and guidelines";*

*ISO 14020:2000 "Environmental Labels and declarations - General Principles*

*ISO 14025:2006 "Environmental labels and declarations -- type III environmental declarations - principles and procedures".*

*EN 15804+A2:2019/AC:2021 European Committee for Standardization: Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products.*

*Dubai Municipality. (2019). Title of the specific report on Construction and Demolition Waste Management in Dubai. Dubai, United Arab Emirates.*

*UAE Ministry of Climate Change and Environment (MOCCA). (Year). Title of the relevant report or data source.*

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