



# Environmental Product Declaration

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



## Agglo pierre ponce

from

**Ménara préfa**



Programme:

Programme operator:

EPD registration number:

Publication date:

Valid until:

The International EPD® System, [www.environdec.com](http://www.environdec.com)

EPD International AB, EPD MENA

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*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 [www.environdec.com](http://www.environdec.com)*



## General information

### Programme information

<b>Programme:</b>	The International EPD® System
<b>Address:</b>	EPD International AB Box 210 60 SE-100 31 Stockholm Sweden
<b>Website:</b>	<a href="http://www.environdec.com">www.environdec.com</a>
<b>E-mail:</b>	<a href="mailto:info@environdec.com">info@environdec.com</a>

<b>Accountabilities for PCR, LCA and independent, third-party verification</b>
<b>Product Category Rules (PCR)</b>
CEN standard EN 15804 serves as the Core Product Category Rules (PCR)
Product Category Rules (PCR): Product category rules (PCR): PCR 2019:14 Construction products version 1.2.5 CONCRETE AND CONCRETE ELEMENTS (EN 16757:2017) C-PCR-003 (TO PCR 2019:14) VERSION: 2019-12-20
PRODUCT GROUP CLASSIFICATION: UN CPC 375 .
PCR review was conducted by: The Technical Committee of the International EPD® System. Contact via <a href="mailto:info@environdec.com">info@environdec.com</a> . PCR moderator Martin Erlandsson, IVL Swedish Environmental Research Institute, <a href="mailto:martin.erlandsson@ivl.se">martin.erlandsson@ivl.se</a>
<b>Life Cycle Assessment (LCA)</b>
LCA accountability: <i>Menara préfa</i>
<b>Third-party verification</b>
Independent third-party verification of the declaration and data, according to ISO 14025:2006, via:  <input checked="" type="checkbox"/> EPD verification by individual verifier  Third-party verifier: Bárbara Civit Approved by: The International EPD® System
Independent third-party verification of the declaration and data, according to ISO 14025:2006, via:  <input type="checkbox"/> EPD verification by accredited certification body  Third-party verification: xxx is an approved certification body accountable for the third-party verification
Procedure for follow-up of data during EPD validity involves third party 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 from different programmes may not be comparable. EPDs of construction products may not be comparable if they do not comply with EN 15804. For further information about comparability, see EN 15804 and ISO 14025.

## Company information

Owner of the EPD: Ménara Préfa a

Contact : Sanaa EL GARNI; s.elgarni@menara-prefa.ma

Description of the organisation: producer of concrete products

Product-related or management system-related certifications: ISO 9001, ISO 14001, ISO 45001, ISO 5001 and conformity to the product standard

Name and location of production site(s): Km 0,5 route d'Agadir, BP 4741 , Hay Massira 40 005 Marrakech , Maroc

## Product information

Product name: AGGLO pierre ponce

Product identification: Concrete blocks in accordance with the standard NM.10.1.009

Product description:

name	dimensions
AG 07 PIERRE PONCE CREUX	490X70X190
AG 10 PIERRE PONCE CREUX	490X100X190
AG 15 PIERRE PONCE CREUX	490X150X190
<b>AG 20 PIERRE PONCE CREUX</b>	<b>500X190X245</b>
AG 25 PIERRE PONCE CREUX	490X240X245
AG 30 PIERRE PONCE CREUX	500X300X245

Technical properties aggro pierre ponce						
Fire reaction	AD					
Resistance class	L30					
Mechanical resistance 5/28 days	(R>1,8 MPa à 5days) (R28days>=3MPa)					
Physical properties	Agglos pierre ponce					
	AG07	AG10	AG15	<b>AG20</b>	AG25	AG30
Block dry density (kg/m3) (+/-10%)	1014,2	824	796,9	<b>697,4</b>	636,1	593,9
Concrete dry density (kg/m3)(+/-10%)	1280					
Lines of cavities	1	1	2	<b>4</b>	5	4
cavities	3	3	6	<b>18</b>	14	14
Surface mm2	35358	49302	74202	<b>95000</b>	117894	148819

Acceptance class	(D1) : L (* 3,-5) ;   (* 3,-5); H (* 3,-5)					
Nominal dimensions	490X70X190	<b>490X100X190</b>	490X150X190	<b>500X190X245</b>	490X240X245	500*300*245
Standard applicable	NM.10.1.009					

This EPD is a specific EPD. The indicators that will be given in the EPD are from the AG20. The additional information is applicable for the products for which the conversion factors will be given.

Products application:

These products are intended to be used in building and civil works. Can be used exposed or covered by a rendering. Can be employed in any kind of wall,

UN CPC code: 375

Geographical scope: Morocco

## LCA information

Functional unit / declared unit: The declared unit of the study is the amount of blocks required to build 1 m<sup>2</sup> of wall. The mass of the product per declared unit is included in the table. The scope of the EPD is Cradle to gate with modules C1–C4 and module D (A1–A3 + C + D).

Name	Ddimensions	Units per F/U	Mass per F/U
AG 07 PIERRE PONCE CREUX	490X70X190	10	63,6
AG 10 PIERRE PONCE CREUX	490X100X190	10	73,9
AG 15 PIERRE PONCE CREUX	490X150X190	10	93,6
<b>AG 20 PIERRE PONCE CREUX</b>	<b>500X190X245</b>	<b>8</b>	<b>153,2</b>
AG 25 PIERRE PONCE CREUX	490X240X245	8	165,44
AG 30 PIERRE PONCE CREUX	500X300X245	8	177,32

As per the PCR of concrete products CONCRETE AND CONCRETE ELEMENTS (EN 16757:2017) C-PCR-003 (TO PCR 2019:14) VERSION: 2019-12-20, the reference service life of the product is 50 years

Reference service life: 50 years

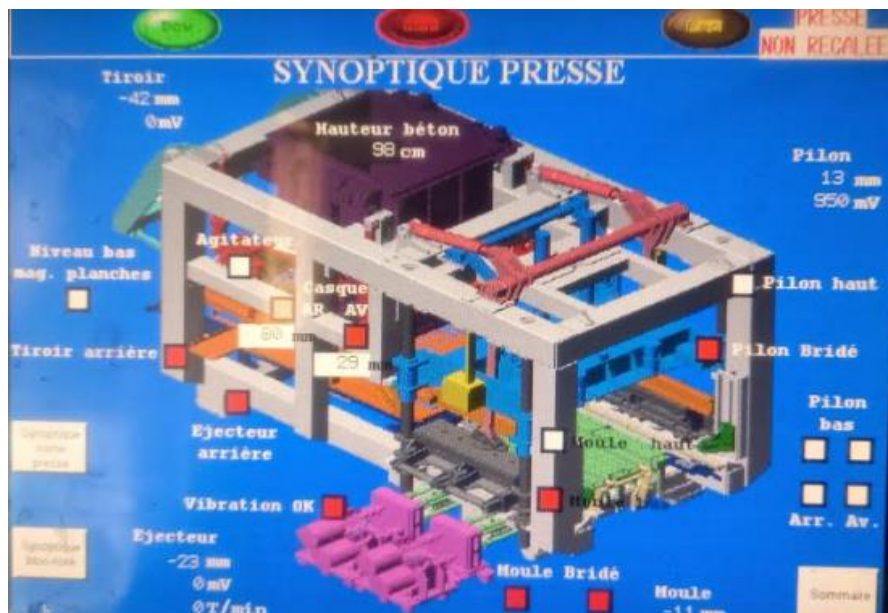
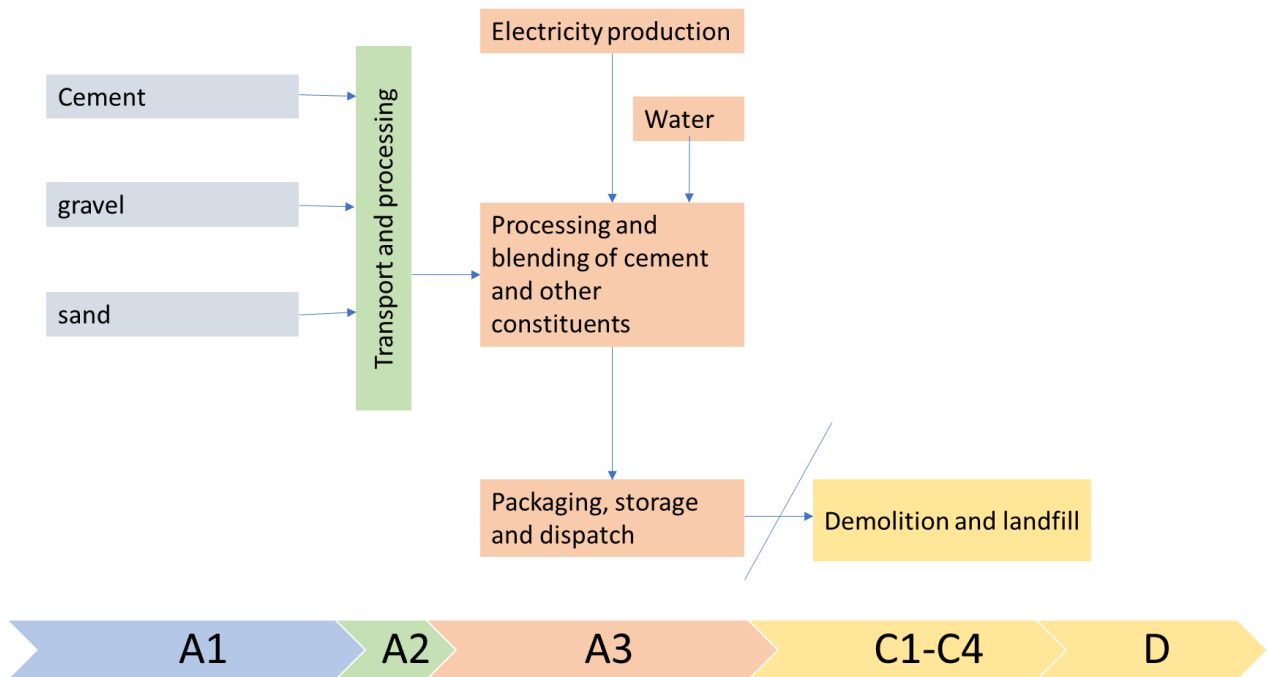
Time representativeness: The study was performed using data from 2021

Database(s) and LCA software used: One click LCA and databases from ecoinvent 3.6

Description of system boundaries:

Cradle to gate with modules C1–C4 and module D (A1–A3 + C + D). Allocation is done by mass.

## System diagram:



Concrete blocks are produced using a vibrating press. These are automatic machines with a high production rate that are integrated in a production unit that includes the mixing, the press, the curing area and the conditioning. The production includes the 4 process as follows:

1) Concrete production, includes the reception of raw materials, dosing, transportation, mixing and homogenisation;

Once the concrete is ready is transported to the moulding area;

2) Fill in : the mould with a metal or wood sheet in the bottom, is filled with concrete with the support of a moving box;

3) Compacting : Concrete is compacted using the vibration of the machine;

4) Demoulding : Take the product out of the mould carefully;

5) Transport : The fresh products are transported to the curing area;

6) Curing : The products stay in the curing area during 32 h until settle. After are put in pallets and stored to be commercialised.

At end of life all the products goes to landfill, not recycling, reutilisation or energy recovery is considered in this moment. The distance to landfill is the average distance to existing landfills in the area.

More information: <https://menaraprefa.ma>

## Modules declared

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	D	D
x	x	x	MND	MND	MND	MND	MND	MND	MND	MND	MND	x	x	x	x	x	x	x
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction /demolition	Transport	Waste processing	Disposal	Reuse	Recovery	Recycling

MND module not declared

## Content information

Material	Weight, kg	Country / Region of origin
Cement CPA 65	9-10%	Morocco
Gravel	18-22%	Morocco
Sand (0...8 mm)	18/22%	Morocco
Pumice	45/51%	Morocco
Water	3-4%	Morocco

Products do not contain any REACH SVHC substances in amounts greater than 0,1% (1000 ppm).

There is not secondary materials in these products.

There is not biogenic carbon in these products.

## Environmental Information

LCA results of the studied product(s) are presented in the tables below:

### AGGLO PIERRE PONCE 20

### CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1-A3	C1	C2	C3	C4	D
GWP – total	kg CO <sub>2</sub> e	2,02E1	1,67E0	5,57E-1	0E0	1,29E0	0E0
GWP – fossil	kg CO <sub>2</sub> e	2,02E1	1,64E0	5,57E-1	0E0	1,29E0	0E0
GWP – biogenic	kg CO <sub>2</sub> e	1,06E-3	2,13E-2	0E0	0E0	1,93E-3	0E0
GWP – LULUC	kg CO <sub>2</sub> e	7,27E-3	2,19E-3	1,68E-4	0E0	5,16E-4	0E0
Ozone depletion pot.	kg CFC-11e	1,65E-6	1,49E-7	1,31E-7	0E0	4,32E-7	0E0
Acidification potential	mol H <sup>+</sup> e	6,07E-2	1,07E-2	2,34E-3	0E0	1,07E-2	0E0
EP-freshwater <sup>2)</sup>	kg Pe	2,47E-4	1,08E-4	4,53E-6	0E0	1,66E-5	0E0
EP-marine	kg Ne	1,65E-2	2,23E-3	7,05E-4	0E0	3,75E-3	0E0
EP-terrestrial	mol Ne	1,89E-1	2,93E-2	7,79E-3	0E0	4,13E-2	0E0
POCP (“smog”)	kg NMVOCe	5,27E-2	7,41E-3	2,5E-3	0E0	1,19E-2	0E0
ADP-minerals & metals	kg Sbe	1,56E-4	1,75E-4	9,5E-6	0E0	1,81E-5	0E0
ADP-fossil resources	MJ	1,43E2	2,39E1	8,66E0	0E0	2,96E1	0E0
Water use <sup>1)</sup>	m <sup>3</sup> e depr.	7,89E0	2,84E0	3,22E-2	0E0	1,08E0	0E0

GWP = Global Warming Potential; EP = Eutrophication potential. EN 15804+A2 disclaimer for Abiotic depletion and Water use indicators and all 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.

Eutrophication aquatic freshwater is calculated and reported as kg P-eq, as the referenced characterisation in EN 15804+A2 requires (“EUTREND model, Struijs et al., 2009b, as implemented in ReCiPe”) uses the unit kg P eq. The EN 15804+A2 standard reporting table mistakenly labels the data as kg PO<sub>4</sub> eq. Multiply by 3,07 to get PO<sub>4</sub>e.

### USE OF NATURAL RESOURCES

Impact category	Unit	A1-A3	C1	C2	C3	C4	D
Renew. PER as energy	MJ	8,84E0	2,14E0	1,09E-1	0	3,16E-1	0
Renew. PER as material	MJ	9,4E0	0	0	0	0	0
Total use of renew. PER	MJ	1,82E1	2,14E0	1,09E-1	0	3,16E-1	0
Non-re. PER as energy	MJ	1,43E2	2,39E1	8,66E0	0	2,96E1	0
Non-re. PER as material	MJ	0	0	0	0	0	0
Total use of non-re. PER	MJ	1,43E2	2,39E1	8,66E0	0	2,96E1	0
Secondary materials	kg	2,08E-2	0	0	0	0	0
Renew. secondary fuels	MJ	0	0	0	0	0	0
Non-ren. secondary fuels	MJ	0	0	0	0	0	0
Use of net fresh water	m3	4,38E-1	2,26E-1	1,8E-3	0	2,62E-2	0

PER abbreviation stands for primary energy resources



## END OF LIFE – WASTE

Impact category	Unit	A1-A3	C1	C2	C3	C4	D
Hazardous waste	kg	3,68E-1	1,23E-1	8,42E-3	0	3,43E-2	0
Non-hazardous waste	kg	1,66E1	5,12E0	9,31E-1	0	1,53E2	0
Radioactive waste	kg	8,61E-4	1,12E-4	5,95E-5	0	1,94E-4	0

## END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1-A3	C1	C2	C3	C4	D
Components for re-use	kg	0	0	0	0	0	0
Materials for recycling	kg	0	0	0	0	0	0
Materials for energy rec	kg	0	0	0	0	0	0
Exported energy	MJ	0	0	0	0	0	0

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

Impact category	Unit	A1-A3	C1	C2	C3	C4	D
Particulate matter	Incidence	6,7E-7	1,22E-7	5,04E-8	0	1,92E-7	0
Ionizing radiation <sup>3)</sup>	kBq U235e	6,74E-1	1,55E-1	3,79E-2	0	1,22E-1	0
Ecotoxicity (freshwater)	CTUe	1,63E2	2,83E1	6,62E0	0	2,09E1	0
Human toxicity, cancer	CTUh	4,24E-9	1,45E-9	1,69E-10	0	5,86E-10	0
Human tox. non-cancer	CTUh	1,84E-7	3,44E-8	7,85E-9	0	1,77E-8	0
SQP	-	3,24E2	1,58E1	1,31E1	0	4,57E1	0

SQP = Land use related impacts/soil quality. 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.

## ENVIRONMENTAL IMPACTS – GWP-GHG - THE INTERNATIONAL EPD SYSTEM

Impact category	Unit	A1-A3	C1	C2	C3	C4	D
GWP-GHG	kg CO <sub>2</sub> e	2,02E1	1,64E0	5,57E-1	0E0	1,29E0	0E0

## Additional information

In this table we provide a set of conversion factors for the rest of the products which definition is given in the text

name	dimensions	Coefficient
AG 07 PIERRE PONCE CREUX	490X70X190	0.42
AG 10 PIERRE PONCE CREUX	490X100X190	0.49
AG 15 PIERRE PONCE CREUX	490X150X190	0.62
AG 20 PIERRE PONCE CREUX	500X190X245	1
AG 25 PIERRE PONCE CREUX	490X240X245	1.08
AG 30 PIERRE PONCE CREUX	500X300X245	1.16

## References

ISO 14025:2010 Environmental labels and declarations – Type III environmental declarations Principles and procedures.

ISO 14040:2006 Environmental management. Life cycle assessment. Principles and frameworks.

ISO 14044:2006 Environmental management. Life cycle assessment. Requirements and guidelines.

EN 15804+A2 Sustainability in construction works – Environmental product declarations – Core rules for the product category of construction products.

PCR 2019:14 Construction products version 1.2.5

CONCRETE AND CONCRETE ELEMENTS (EN 16757:2017) C-PCR-003 (TO PCR 2019:14)  
 VERSION: 2019-12-20