



ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025 / ISO 21930

CEMENT: CEM I 52,5R

COMPANY: ROMCIM ROMANIA

Emanoil Porumbaru Street, No 93-95, District 1, BUCHAREST

Phone: +40 213 075 200

Trade Register No: J40/546/1991

VAT Number: RO 328750



EPD HUB, HUB-1950

Published on 23.08.2024, last updated on 23.08.2024, valid until 23.08.2029.

GENERAL INFORMATION

MANUFACTURER

Manufacturer	COMPANY: ROMCIM ROMANIA
Address	Emanoil Porumbaru Street, No 93-95, District 1, BUCHAREST
Contact details	ghiulgian.miron@romcim.ro
Website	https://www.romcim.ro/

EPD STANDARDS, SCOPE AND VERIFICATION

Program operator	EPD Hub, hub@epdhub.com
Reference standard	EN 15804+A2:2019 and ISO 14025
PCR	EPD Hub Core PCR version 1.1, 5 Dec 2023
Sector	Construction product
Category of EPD	Third party verified EPD
Scope of the EPD	Cradle to gate
EPD author	LCA Institut
EPD verification	Independent verification of this EPD and data, according to ISO 14025: <input type="checkbox"/> Internal verification <input checked="" type="checkbox"/> External verification
EPD verifier	Edis Glogic

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.

PRODUCT

Product name	CEMENT: CEM I 52,5R
Additional labels	CEM I 52,5R
Product reference	-
Place of production	Hoghiz & Medgidia cement plants Romania
Period for data	2023
Averaging in EPD	Multiple factories
Variation in GWP-fossil for A1-A3	<5 %

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 ton
Declared unit mass	1000 kg
GWP-fossil, A1-A3 (kgCO ₂ e)	753
GWP-total, A1-A3 (kgCO ₂ e)	753
Secondary material, inputs (%)	12
Secondary material, outputs (%)	0
Total energy use, A1-A3 (kWh)	1370
Net fresh water use, A1-A3 (m ³)	9.28

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

Romcim stands as one of the foremost producers of essential materials in Romania, including cement, concrete, and aggregates, recognized for its significant contribution to the development of the local market.

It is part of the most dynamic group of companies in the construction industry in Romania, employing over 2200 colleagues across all our business lines and operating over 50 units national wide managed through our legal entities: Romcim, Elpreco, Ferrobeton, Baulemente, and Sapphire.



Our building and construction solutions span aggregates, cement, ready-mix concrete, precast elements, building products for masonry and outdoor landscaping, and alternative fuels. The combination of people, know-how, technology, assets, and innovation enables us to offer unrivalled customized solutions for infrastructure, non-residential and residential market segments contributing to the way our world is built. With a long-standing heritage and a forward-looking approach, Romcim is dedicated to delivering superior quality solutions and products that meet the evolving needs of the construction market. Sustainability is at the core of Romcim's business philosophy.

We are committed to reducing our environmental footprint. Further information can be found at <https://www.romcim.ro/>.



PRODUCT DESCRIPTION

Cement is a hydraulic binder, a finely ground material that, in contact with water, hardens and forms cement stone. Portland cement is obtained by the advanced grinding of clinker, together with additions and gypsum.

CEM I 52,5R- Cement for high-performance concrete

CEM I 52,5R it's a Portland cement with minimum 95% clinker, with a guaranteed minimum resistance of 52.5 MPa at 28 days and a minimum of 30 MPa at 2 days. It's a suitable cement for any type of construction work with fast pace of execution, carried out throughout the year (including the winter period), for all type of precast -prestressed or reinforced, railways slipper and for road concrete industrial, warehouses, etc. with deadlines reduced by commissioning.

Application:

- Precast elements: light, medium and heavy
- Civil and industrial construction
- Roads, bridges, tunnels, viaducts, art works
- Construction works during wintertime
- Dry mortars and adhesives

Delivery: bulk in cement tanks, with loading from Romcim plants and terminals.

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass- %	Material origin
Metals	-	-
Minerals	100	EU
Fossil materials	-	-
Bio-based materials	-	-

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	0
Biogenic carbon content in packaging, kg C	0



FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 ton
Mass per declared unit	1000 kg

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

PRODUCT LIFE-CYCLE

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	MND	MND	MND	MND	MND	
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstr./demol.	Transport	Waste processing	Disposal	Reuse	Recycling

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

MANUFACTURING AND PACKAGING (A1-A3)

The environmental impacts considered for the product stage cover the manufacturing of raw materials used in the production as well as packaging materials and other ancillary materials. 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.

Cement is a hydraulic binder, a finely ground material that, in contact with water, hardens and forms cement stone. Portland cement is obtained by the advanced grinding of clinker, together with additions and gypsum. All manufacturing is in Romcim plant where whole manufacturing process is happening. Raw materials are mixed in defined proportion, their transport is included as well as the energy used for the process. There is no packaging because Cement is delivery in bulk.

TRANSPORT AND INSTALLATION (A4-A5)

This EPD does not cover this stage.

PRODUCT USE AND MAINTENANCE (B1-B7)

This EPD does not cover the use phase.

PRODUCT END OF LIFE (C1-C4, D)

This EPD does not cover this stage.

MANUFACTURING PROCESS

CEMENT MANUFACTURING PROCESS



LIFE-CYCLE ASSESSMENT

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. The study includes all major raw material and energy consumption. All inputs and outputs of the unit processes, for which data is available for, are included in the calculation. 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.

ALLOCATION, ESTIMATES AND ASSUMPTIONS

Allocation is required if some material, energy, and waste data cannot be measured separately for the product under investigation. All allocations are done as per the reference standards and the applied PCR. In this study, allocation has been done in the following ways:

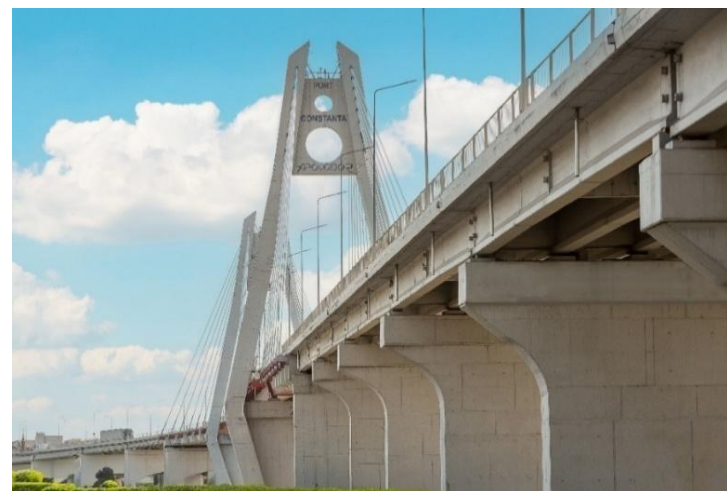
Data type	Allocation
Raw materials	Allocated by mass or volume
Packaging materials	Not applicable
Ancillary materials	Allocated by mass or volume
Manufacturing energy and waste	Allocated by mass or volume

AVERAGES AND VARIABILITY

Type of average	Multiple factories
Averaging method	Representative product
Variation in GWP-fossil for A1-A3	<5 %

LCA SOFTWARE AND BIBLIOGRAPHY

This EPD has been created using One Click LCA EPD Generator. The LCA and EPD have been prepared according to the reference standards and ISO 14040/14044. The EPD Generator uses Ecoinvent v3.8, Plastics Europe, Federal LCA Commons and One Click LCA databases as sources of environmental data.



ENVIRONMENTAL IMPACT DATA

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP – total ¹⁾	kg CO ₂ e	7,53E+02	MND	MND	MND	MND	MND	MND	MND	MND	MND	MNR	MNR	MNR	MNR	MNR
GWP – fossil	kg CO ₂ e	7,53E+02	MND	MND	MND	MND	MND	MND	MND	MND	MND	MNR	MNR	MNR	MNR	MNR
GWP – biogenic	kg CO ₂ e	1,50E-01	MND	MND	MND	MND	MND	MND	MND	MND	MND	MNR	MNR	MNR	MNR	MNR
GWP – LULUC	kg CO ₂ e	7,61E-02	MND	MND	MND	MND	MND	MND	MND	MND	MND	MNR	MNR	MNR	MNR	MNR
Ozone depletion pot.	kg CFC-11e	1,62E-05	MND	MND	MND	MND	MND	MND	MND	MND	MND	MNR	MNR	MNR	MNR	MNR
Acidification potential	mol H ⁺ e	1,46E+00	MND	MND	MND	MND	MND	MND	MND	MND	MND	MNR	MNR	MNR	MNR	MNR
EP-freshwater ²⁾	kg Pe	1,79E-02	MND	MND	MND	MND	MND	MND	MND	MND	MND	MNR	MNR	MNR	MNR	MNR
EP-marine	kg Ne	1,54E-03	MND	MND	MND	MND	MND	MND	MND	MND	MND	MNR	MNR	MNR	MNR	MNR
EP-terrestrial	mol Ne	6,07E+00	MND	MND	MND	MND	MND	MND	MND	MND	MND	MNR	MNR	MNR	MNR	MNR
POCP (“smog”) ³⁾	kg NMVOCe	1,69E+00	MND	MND	MND	MND	MND	MND	MND	MND	MND	MNR	MNR	MNR	MNR	MNR
ADP-minerals & metals ⁴⁾	kg Sbe	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MND	MND	MNR	MNR	MNR	MNR	MNR
ADP-fossil resources	MJ	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MND	MND	MNR	MNR	MNR	MNR	MNR
Water use ⁵⁾	m ³ e depr.	3,26E+02	MND	MND	MND	MND	MND	MND	MND	MND	MND	MNR	MNR	MNR	MNR	MNR

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, PEF

Impact category	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Particulate matter	Incidence	1,71E-05	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Ionizing radiation ⁶⁾	kBq U235e	1,86E+01	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Ecotoxicity (freshwater)	CTUe	7,00E+01	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Human toxicity, cancer	CTUh	1,06E-06	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Human tox. non-cancer	CTUh	1,81E-05	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00
SQP ⁷⁾	-	7,06E+02	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00

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-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Renew. PER as energy ⁸⁾	MJ	1,46E+02	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Renew. PER as material	MJ	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of renew. PER	MJ	1,46E+02	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Non-re. PER as energy	MJ	3,85E+03	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Non-re. PER as material	MJ	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of non-re. PER	MJ	3,85E+03	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Secondary materials	kg	1,20E+02	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Renew. secondary fuels	MJ	4,26E+02	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Non-ren. secondary fuels	MJ	5,18E+02	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m ³	9,28E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00

8) PER = Primary energy resources.

END OF LIFE – WASTE

Impact category	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Hazardous waste	kg	1,48E-03	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Non-hazardous waste	kg	4,07E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Radioactive waste	kg	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00

END OF LIFE – OUTPUT FLOWS

Impact category	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	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	1,32E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for energy rec	kg	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy	MJ	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00

ENVIRONMENTAL IMPACTS – GWP-GHG - THE INTERNATIONAL EPD SYSTEM

Impact category	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-GHG ⁸⁾	kg CO ₂ e	7,53E+02	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00

8) This indicator includes all greenhouse gases excluding biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product as defined by IPCC AR 5 (IPCC 2013).

In addition, the characterisation factors for the flows - CH₄ fossil, CH₄ biogenic and Dinitrogen monoxide - were updated in line with the guidance of IES PCR 1.2.5 Annex 1.

This indicator is identical to the GWP-total of EN 15804:2012+A2:2019 except that the characterization factor for biogenic CO₂ is set to zero.

VERIFICATION STATEMENT

VERIFICATION PROCESS FOR THIS EPD

This EPD has been verified in accordance with ISO 14025 by an independent, third-party verifier by reviewing results, documents and compliancy with reference standard, ISO 14025 and ISO 14040/14044, following the process and checklists of the program operator for:

- This Environmental Product Declaration
- The Life-Cycle Assessment used in this EPD
- The digital background data for this EPD

Why does verification transparency matter? [Read more online](#)

This EPD has been generated by One Click LCA EPD generator, which has been verified and approved by the EPD Hub.

THIRD-PARTY VERIFICATION STATEMENT

I hereby confirm that, following detailed examination, I have not established any relevant deviations by the studied Environmental Product Declaration (EPD), its LCA and project report, in terms of the data collected and used in the LCA calculations, the way the LCA-based calculations have been carried out, the presentation of environmental data in the EPD, and other additional environmental information, as present with respect to the procedural and methodological requirements in ISO 14025:2010 and reference standard.

I confirm that the company-specific data has been examined as regards plausibility and consistency; the declaration owner is responsible for its factual integrity and legal compliance.

I confirm that I have sufficient knowledge and experience of construction products, this specific product category, the construction industry, relevant standards, and the geographical area of the EPD to carry out this verification.

I confirm my independence in my role as verifier; I have not been involved in the execution of the LCA or in the development of the declaration and have no conflicts of interest regarding this verification.

Edis Glogic, as an authorized verifier acting for EPD Hub Limited
15.11.2024

