

ENVIRONMENTAL PRODUCT DECLARATION

In accordance with ISO 14025 and EN 15804+A2 

Secil Agregados, S.A.
RACHÃO BRITADO



Owner of the declaration

Secil Agregados, S.A.
Rua da Curviã
4805 Guimarães
Portugal

Product

RACHÃO BRITADO

Declared product / Declared unit

1 t

**This declaration is based on Product
Category Rules**

EN 15804:2012 + A2:2019,
NPCR 018 Part B for Natural Stone,
Aggregates, and Fillers,
NPCR Part A:2021

Program operator:

EPD Global
Majorstuen P.O. Box 5250
N-0303 Oslo
Norway

Declaration number

NEPD-10332-10332-2

Registration number

NEPD-10332-10332-2

Issue date

30.09.2025

Valid to

29.09.2030

EPD Software

Emidat Platform v1.0.0

General Information

Product

RACHÃO BRITADO

Program Operator

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Declaration Number

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EN 15804:2012 + A2:2019,
 NPCR 018 Part B for Natural Stone, Aggregates, and
 Fillers,
 NPCR Part A:2021

Statements

The owner of the declaration shall be liable for the underlying information and evidence. The Norwegian EPD Foundation shall not be liable with respect to manufacturer, life cycle assessment data and evidences.

Declared unit

1 t

General information on verification of EPD from EPD tools

Independent verification of data, other environmental information and the declaration according to ISO 14025:2010, § 8.1.3 and § 8.1.4. Verification of each EPD is made according to EPD Global's guidelines for verification and approval requiring that tools are i) integrated into the company's environmental management system, ii) the procedures for use of the EPD tool are approved by EPD Global, and iii) the process is reviewed annually by an independent third party verifier. See Appendix G of EPD Global's General Programme Instructions for further information on EPD tools.

Verification of EPD tool

Charlotte Merlin, FORCE Technology
 (no signature required)

Owner of the declaration

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Manufacturer

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Place of production

Guimarães, Portugal

Management system

ISO 9001

Organisation no

8121

Issue date

30.09.2025

Valid to

29.09.2030

Year of study

2024

Comparability

EPDs of construction products may not be comparable if they do not comply with EN 15804 and are not seen in a building context. EPD data may not be comparable if the datasets used are not developed in accordance with EN 15804 and if the background systems are not based on the same database (including primary and secondary data).

Development and verification of EPD

The declaration was created using the Emidat EPD tool v1.0, developed by Emidat GmbH. The EPD tool has been approved by EPD Global.

Developer of EPD: Daniela Faísca

Reviewer of company-specific input data and EPD: Raquel Sofia Venâncio Madeira do Nascimento Paulo

Approved



Håkon Hauan, The Norwegian EPD Foundation

Product

Product description

Natural granitic aggregates are materials commonly used in construction and civil engineering that are sourced directly from natural deposits. These aggregates are typically formed through natural processes and are widely utilized in various construction applications due to their physical properties and availability.

The product complies with the established standard NP EN 12620-1 and can be consulted in its performance declaration.



Aggregates have specific properties that make them suitable for various civil engineering applications, including their use in the production of concrete and mortar, in unbound applications without any hydraulic or other binder, and in hydraulic engineering works for protection or regulation.

Product specification

Name of ingredient	Share of total weight	Country of origin
Aggregates	100 %	Portugal

Technical data

	Unit	Value
Gross density	kg / m ³	2770.0

Market

Portugal

LCA: Calculation rules

Declared unit

1 t

Reference service life

50 years

Data quality

The foreground data are based on extensive and detailed data collection at the production site of the manufacturer, covering key processes such as raw material sourcing, formulation, and manufacturing. These foreground data are fully linked with corresponding datasets from the background database (ecoinvent 3.10) or with EN15804+A2-compliant EPDs, ensuring consistency, reliability, and maintaining alignment with the latest industry standards.

The overall data representativeness is rated as good with an overall score of 3.94/5, in accordance with EN 15804+A2 Annex E guidance on data quality assessment, considering geographical, technical, and temporal representativeness.

System boundaries (X=included, MND=module not declared)

	Production			Installation		Use stage							End-of-Life				Next product system
	Raw material supply	Transport	Manufacturing	Transport	Installation Process	Use	Maintenance	Repair	Replacement	Refurbishment	Operational Energy Use	Operational Water Use	Demolition	Transport	Waste Processing	Disposal	Benefits and loads beyond the system boundary
Module	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Modules declared	x	x	x	MND	MND	MND	MND	MND	MND	MND	MND	MND	x	x	x	x	x
Geography			PT	MND	MND	MND	MND	MND	MND	MND	MND	MND	PT	PT	PT	PT	PT

For the geographies modeled in A1 and A2, refer to *Product specification*.

Type of EPD: Cradle to gate with options, modules C1-C4, and D

Stage of Material Production and Construction

Module A1: Production of ancillary materials

Module A2: Transportation to the quarry

Module A3: Aggregates extraction, crushing and sizing at the site and waste treatment

Disposal Stage

Module C1: Mechanical removal of unbound aggregates with a hydraulic excavator

Module C2: Transportation of the recovered aggregates to a reuse site

Module C3: Reuse of unbound aggregates in another similar project, re-laid using a hydraulic excavator

Module C4: No aggregates are expected to reach landfill

Credits and burdens outside the system boundaries

Module D: Credits from the avoided production of primary aggregates. Burdens: none (no further processing assumed)

Cut-off criteria

No cut-offs were applied.

Allocation

Foreground inventory data (energy and fuels, ancillary materials, emissions and waste) was collected at the production-process level. Using the total output of the production process in 2024, these flows are allocated to one declared unit

based on mass.

LCA: Scenarios and additional technical information

The following information describe the scenarios in the different modules of the EPD.

Transport to the waste facility (C2)	Value	Unit
Mass to reuse	1000.00	kg
Distance to reuse by truck	50.00	km
Truck: Activity	transport, freight, lorry >32 metric ton, EURO6	-
Truck: Capacity utilization	53.30	%
Truck: Distance	50.00	km
Truck: Energy demand	1.58	MJ / t*km

Waste processing (C3)	Value	Unit
Material for reuse	1000.00	kg

Reuse, recovery and/or recycling potentials (D)	Value	Unit
Amount of secondary material that the system takes in	0	kg
Substitution of primary aggregates	1000.00	kg
Substitution of electrical energy production	0.02	MJ
Substitution of thermal energy production	0.24	MJ

Calculation of benefits and loads per EN 15804+A2.

LCA: Results

Core environmental impact indicators

Indicator	Unit	A1-3	C1	C2	C3	C4	D
GWP-total	kg CO ₂ -eq.	3.25e+00	2.15e-01	5.18e+00	0	0	-2.32e+00
GWP-fossil	kg CO ₂ -eq.	3.24e+00	2.15e-01	5.18e+00	0	0	-2.25e+00
GWP-biogenic	kg CO ₂ -eq.	9.49e-04	6.79e-05	2.60e-03	0	0	-6.29e-02
GWP-luluc	kg CO ₂ -eq.	2.41e-03	2.28e-05	1.84e-03	0	0	-9.78e-04
ODP	kg CFC-11-Eq	5.41e-08	4.03e-09	1.08e-07	0	0	-3.30e-08
AP	mol H ⁺ -Eq	2.44e-02	1.85e-03	1.22e-02	0	0	-1.84e-02
EP-freshwater	kg P-Eq	2.79e-04	9.26e-06	3.64e-04	0	0	-3.00e-04
EP-marine	kg N-Eq	1.06e-02	8.53e-04	3.21e-03	0	0	-7.03e-03
EP-terrestrial	mol N-Eq	1.16e-01	9.33e-03	3.47e-02	0	0	-8.15e-02
POCP	kg NMVOC-Eq	3.45e-02	2.84e-03	2.12e-02	0	0	-2.34e-02
ADPE	kg Sb-Eq	4.38e-06	9.62e-08	1.48e-05	0	0	-2.10e-05
ADPF	MJ, net calorific value	4.45e+01	2.77e+00	7.77e+01	0	0	-3.50e+01
WDP	m ³ world Eq deprived	3.58e-01	9.95e-03	3.90e-01	0	0	-1.54e+00

GWP-total: Global Warming Potential - total **GWP-fossil:** Global warming potential - fossil **GWP-biogenic:** Global Warming Potential - biogenic **GWP-luluc:** Global Warming Potential - luluc **ODP:** Depletion potential of the stratospheric ozone layer **AP:** Acidification potential, Accumulated Exceedance **EP-freshwater:** Eutrophication potential - freshwater **EP-marine:** Eutrophication potential - marine **EP-terrestrial:** Eutrophication potential - terrestrial **POCP:** Photochemical Ozone Creation Potential **ADPE:** Abiotic depletion potential - non-fossil resources **ADPF:** Abiotic depletion potential - fossil resources **WDP:** Water (user) deprivation potential

Additional indicators

Indicator	Unit	A1-3	C1	C2	C3	C4	D
PM	disease incidence	6.20e-07	5.24e-08	5.04e-07	0	0	-4.76e-07
IRP	kBq U235-Eq	1.05e-01	2.25e-03	9.44e-02	0	0	-4.88e-01
ETP-fw	CTUe	7.72e+00	5.49e-01	1.84e+01	0	0	-1.55e+01
HTP-c	CTUh	1.15e-08	1.41e-09	3.31e-08	0	0	-3.43e-08
HTP-nc	CTUh	1.03e-08	4.76e-10	5.13e-08	0	0	-2.32e-08
SQP	dimensionless	4.04e+00	2.01e-01	7.82e+01	0	0	-6.65e+01

PM: Potential incidence of disease due to PM emissions **IRP:** Potential Human exposure efficiency relative to U235 **ETP-fw:** Potential Comparative Toxic Unit for ecosystems **HTP-c:** Potential Comparative Toxic Unit for humans - cancer effects **HTP-nc:** Potential Comparative Toxic Unit for humans - non-cancer effects **SQP:** Potential Soil quality index

IRP: 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.

ETP-fw, HTP-c, HTP-nc and SQP: 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 these indicators.

Use of resources

Indicator	Unit	A1-3	C1	C2	C3	C4	D
PERE	MJ	9.12e-01	2.81e-02	1.23e+00	0	0	-1.08e+01
PERM	MJ	0	0	0	0	0	0
PERT	MJ	9.12e-01	2.81e-02	1.23e+00	0	0	-1.08e+01
PENRE	MJ	4.45e+01	2.77e+00	7.77e+01	0	0	-3.50e+01
PENRM	MJ	0	0	0	0	0	0
PENRT	MJ	4.45e+01	2.77e+00	7.77e+01	0	0	-3.50e+01
SM	kg	0	0	0	0	0	1.00e+03
RSF	MJ	0	0	0	0	0	0
NRSF	MJ	0	0	0	0	0	0
FW	m ³	1.18e-02	2.10e-04	1.13e-02	0	0	-1.43e+00

PERE: Primary energy resources - renewable: use as energy carrier **PERM:** Primary energy resources - renewable: used as raw materials **PERT:** Primary energy resources - renewable: total **PENRE:** Primary energy resources - non-renewable: use as energy carrier **PENRM:** Primary energy resources - non-renewable: used as raw materials **PENRT:** Primary energy resources - non-renewable: total **SM:** Use of secondary material **RSF:** Renewable secondary fuels **NRSF:** Non-renewable secondary fuels **FW:** Net use of fresh water

Waste flows

Indicator	Unit	A1-3	C1	C2	C3	C4	D
HWD	kg	1.01e-01	4.81e-03	1.13e-01	0	0	-1.46e-01
NHWD	kg	1.52e+00	6.69e-02	2.26e+00	0	0	-2.39e+00
RWD	kg	2.60e-05	5.59e-07	2.34e-05	0	0	-1.11e-04

HWD: Hazardous waste disposed **NHWD:** Non hazardous waste disposed **RWD:** Radioactive waste disposed

Output flows

Indicator	Unit	A1-3	C1	C2	C3	C4	D
CRU	kg	0	0	0	1.00e+03	0	0
MFR	kg	2.80e-02	0	0	0	0	0
MER	kg	0	0	0	0	0	0
EEE	MJ	1.82e-02	0	0	0	0	0
EET	MJ	2.37e-01	0	0	0	0	0

CRU: Components for re-use **MFR:** Materials for recycling **MER:** Materials for energy recovery **EEE:** Exported electrical energy **EET:** Exported thermal energy

Name	Value	Unit
Biogenic carbon content in product	0	kg C
Biogenic carbon content in accompanying packaging	0	kg C

Additional requirements

Greenhouse gas emissions from the use of electricity in the manufacturing phase

Electricity consumption in the manufacturing phase is composed from the source below. Electricity is represented by data in ecoinvent 3.10 regionalised for Portugal.

Electricity	Unit	Value
Electricity from grid	kg CO ₂ -eq. / kWh	0.60

Dangerous substances

The product contains no hazardous substances given by the REACH Candidate List or the Norwegian Priority List.

Additional environmental information

Additional environmental impact indicators required in NPCR Part A for construction products

Indicator	Unit	A1-3	C1	C2	C3	C4	D
GWP-IOBC	kg CO ₂ -eq.	3.25e+00	2.15e-01	5.18e+00	0	0	-2.26e+00

GWP-IOBC: Global Warming Potential - Instantaneous oxidation of biogenic carbon

Bibliography

CEN/TR 15941:2010	Sustainability of construction works - Environmental product declarations - Methodology for selection and use of generic data
EN 15804:2012+A2:2019	Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products
EN 15942:2022-04	Sustainability of construction works - Environmental product declarations - Communication format business-to-business
ISO 14025:2011-10	Environmental labels and declarations - Type III environmental declarations - Principles and procedures
ISO 14040:2021-02	Environmental management - Life cycle assessment - Principles and framework
ISO 14044:2021-02	Environmental management - Life cycle assessment - Requirements and guidelines
ecoinvent v3.10	ecoinvent, Zurich, Switzerland, database version 3.10
NPCR 018:2022	Product category rules, Part B: Natural stone products, aggregates and fillers. Issue date: 20.01.2022; validity extended to 31.12.2026.
NPCR Part A:2021	Construction products and services, Version 2.0. Issue date: 24.03.2021; validity extended to 24.03.2026.

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