Environmental Product Declaration

In accordance with ISO 14025, EN 15804:2012+A2:2019/AC:2021:

Crushed aggregates from Quarry Bor

EPD of multiple products from a company

Programme:	Czech Environmental Information Agency (CENIA), “National programme of environmental labelling” - CZ
Programme operator:	CENIA, Czech Environmental Information Agency, Executive body of NPEZ Agency
EPD owner:	Kámen a písek, spol. s.r.o.
Author:	LCA Studio s.r.o.
Publication date:	24.8. 2026
Valid until:	24.8. 2031

GENERAL INFORMATION

Followed standards and third-party verification	
Standards	This EPD is carried out according to ISO 14025:2006, EN 15804:2012+A2:2019/AC:2021.
Third-party verification	Independent third-party verification of the declaration and data, according to ISO 14025:2006, via: ☒ Individual EPD verification without a pre-verified LCA/EPD tool Third-party verifier: prof. Ing. Silvia Vilčeková, PhD., Silcert, s.r.o.
	Procedure for follow-up of data during EPD validity involves third party verifier: ☐ Yes ☒ No
LCA practitioner, commissioned by the owner of the EPD	
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The EPD owner has the sole ownership, liability, and responsibility for the EPD.

EPDs within the same product category but published in different EPD programmes, may not be comparable. For two EPDs to be comparable, they shall be based on the same PCR (including the same first-digit 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 identical scope in terms of included life-cycle stages (unless the excluded life-cycle stage is demonstrated to be insignificant); apply identical impact assessment methods (including the same version of characterisation factors); and be valid at the time of comparison.

For further information about comparability, see EN 15804 and ISO 14025.

COMPANY INFORMATION

Owner of the EPD	
Name	Kámen a písek, spol. s.r.o.
Address	Linecká 277, 381 01 Český Krumlov, Czech Republic, https://www.kamen-ck.cz/
Contact	Marie Dvořáková marie.dvorakova@kamen-ck.cz

Description of the EPD owner organisation:

We are a traditional and at the same time the largest producer of crushed aggregates in the South Bohemian Region. Thanks to continuous investments in modernising our production technology, a strong customer focus and commitment to meeting our clients' needs, we have become one of the leading companies in our sector in the Czech Republic. Our annual output reaches approximately 2,500,000 tonnes of crushed aggregates. We have been a stable player on the market since 1991 and are a Czech-Austrian company belonging to the Kirchdorfer Industries Group.

We supply crushed aggregates in accordance with European standards to all segments of the construction market, in particular aggregates for asphalt mixtures, concrete aggregates, aggregates for pavement structural layers, mechanically stabilised aggregates, aggregates for railway construction and aggregates for hydraulic engineering.

Location of the production site:

The production plant is located in Lutová, Suchdol nad Lužnicí 378 06, Czech Republic.

PRODUCT INFORMATION

This EPD is valid for the following product:	Crushed aggregates
UN CPC code	15320 - Pebbles, gravel, broken or crushed stone, macadam; tarred macadam; granules, chippings and powder of stone

Annual production capacity of quarry Bor: 60,000 tonnes.

Technological equipment of the quarry: First stage of crushing and screening, production by a mobile plant.

Raw material Orthogneiss. Compact brown-black rock.

Use: Crushed gravel-sand mixtures, Crushed gravels, Graded crushed aggregates – lower pavement structures and paved areas, drainage layers, quarry stone, construction stone for plinths, bridge piers, retaining and revetment walls, coastal protection stone, stone for gabion walls.

Packaging / delivery: supplied as bulk in truck-tankers.

Figure 1 Crushed rock fill, macadam: G-F 0/125: gravel, with an admixture of fine-grained soil

Included products:	
rock: gneiss	aggregate standards
crushed gravel	
PDK 32/63	ČSN EN 13242+A1
PDK 0/32 (ŠDA 0/32)	ČSN EN 13242+A1, (ČSN EN 13285:2019, ČSN 736126-1)
PDK 0/63 (ŠDA 0/63)	ČSN EN 13242+A1, (ČSN EN 13285:2019, ČSN 736126-1)
crushed rock fill, macadam	
GP 63/125	ČSN 736133
G-F 0/125	ČSN 736133
quarry stone, rock fill	
Quarry stone, unsorted	
Rock fill (overburden)	ČSN 736133

CONTENT DECLARATION

Product content	%	Post-consumer recycled material, mass-% of product	Biogenic material, mass-% of product	Biogenic material[1], kg C/declared unit
Rock: gneiss	100	0	0	0
Total	**100**	**0**	**0**	**0**

Products from Quarry Bor are assumed to be sold primarily in bulk; thus, no additional packaging is included.

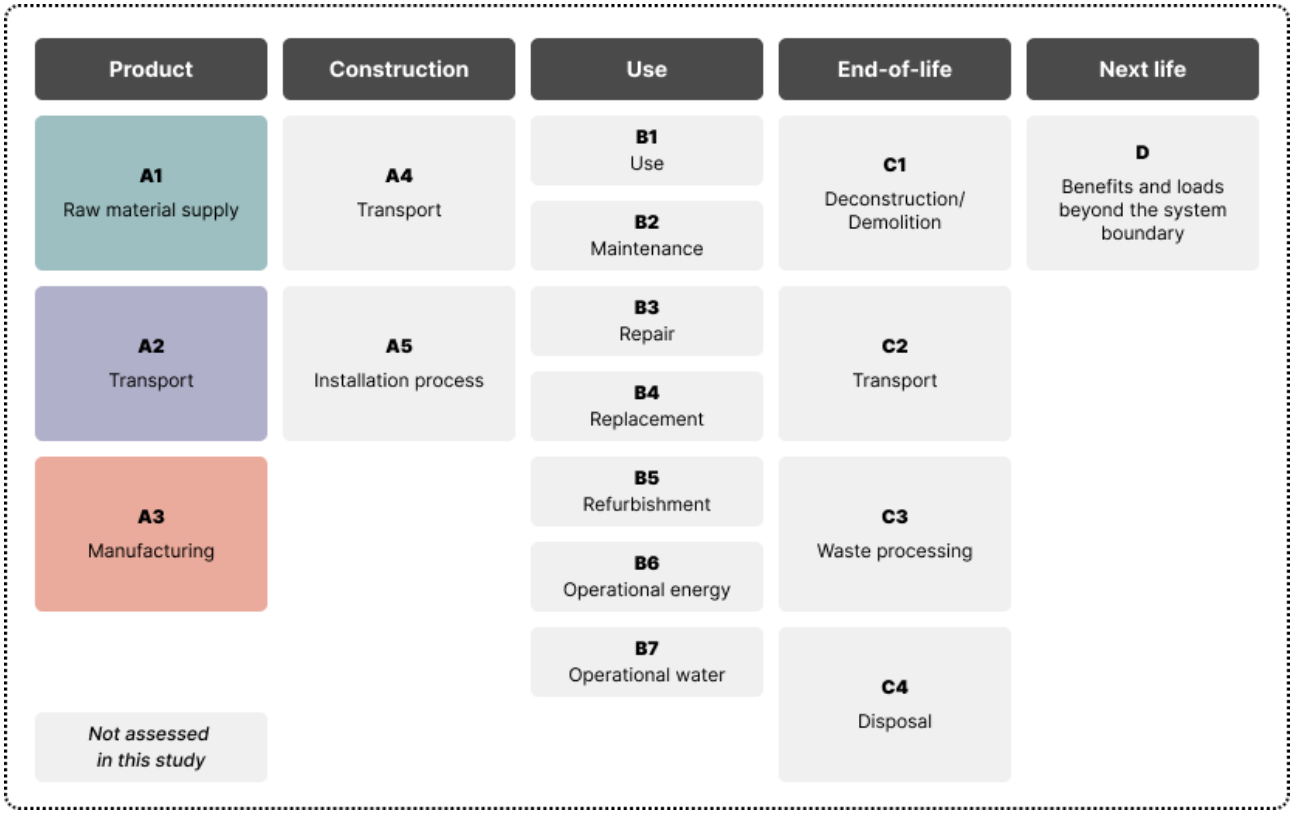
No substances included in the Candidate List of Substances of Very High Concern for authorization under the REACH regulations are present in the products either above the threshold for registration with the European Chemicals Agency or above 0.1% weight.

LCA INFORMATION

Functional/Declared unit	1 ton of a quarry product (gneiss) (declared unit)
Time representativeness:	Specific manufacturer data are based on a one-year average (reference year 2025). For background data, a time scope of less than 10 years was applied.
Cut off rules:	The cut-off criterion was determined according to the EN 15804:2012+A2:2019/AC:2021 standard. In line with the requirements, more than 95% of flows were included.
Database(s) and LCA software used:	Software LCA for Experts (version 10.9.3.0). Sphera database (version 2026.1, ecoinvent database (version 3.11) – "allocation, cut-off, EN15804" system model. The data quality assessment has been carried out in accordance with EN 15941. The assessment covers geographical, technical, and temporal representativeness of the data and includes all relevant datasets contributing to at least 80% of the results for each declared environmental impact indicator. Primary data from the production process (including raw materials, auxiliary materials, and energy consumption) have been complemented with high-quality secondary data from recognized databases (Sphera 2026.1 and Ecoinvent 3.11). Based on this evaluation, the overall data quality is considered good and compliant with EN 15941.
Allocations:	Allocation was not applied. The quarry produces four separate products. Each product has its own measured inventory and its own LCA model, so no shared inputs required allocation. The EPD reports separate results for all four products.
Geographical scope:	Czech Republic, Europe
Electricity mix	Generation of electricity consumed within the production was based on the Czech residual electricity mix.
Characterization factors	Characterisation factors are based on Environmental Footprint (EF) 3.1.
Conversion to mass	1

System boundary

The study is based on a Cradle to gate (A1-A3). It covers the production of raw materials, all relevant transport down to factory gate and manufacturing by Kámen a písek, spol. s.r.o.



Module A1 covers the production of materials and components needed for extraction of the product and it also includes fuels and energy carriers (electricity). This consists of the production of input materials and components as steel sheets, detonators, indirect materials, etc.

Module A2 covers the transport of materials and components into the site of production Kámen a písek. Generic database processes with site-specific parameters for distance were used.

Module A3 covers on-site operated processes dealing with the product production. These processes are under the operational control of Kámen a písek, spol. s.r.o. These are specific processes modelled based on data collection.

A1 - A3 Product stage	Raw material supply	A1	X
	Transport	A2	X
	Manufacturing	A3	X
A4 - A5 Construction process	Transport from the gate to the site	A4	ND
	Assembly	A5	ND
B1 - B7 Use stage	Use	B1	ND
	Maintenance	B2	ND
	Repair	B3	ND
	Replacement	B4	ND
	Refurbishment	B5	ND
	Operational water use	B6	ND
	Operational energy use	B7	ND
C1 - C4 End of life stage	De-construction	C1	ND
	Transport	C2	ND
	Waste processing	C3	ND
	Disposal	C4	ND
D Benefits and loads beyond the system boundaries	Reuse- Recycling - Recovery Potential	D	ND

X = declared module, ND = not declared module

ENVIRONMENTAL PERFORMANCE

Impact contribution

Quarry Bor					Share of primary data of GWP-GHG results for A1-A3 (%)			
Process	**Source type**	**Source**	**Reference year**	**Data category**	**Quarry stone, rock fill**	**Crushed rock fill**	**Crushed gravel**	**Graded crushed aggregates**
Fuel consumption	Database	Sphera	2025	Primary data	65,21	65,21	65,21	65,21
Electricity consumption	Database	Sphera	2025	Primary data	0	0	0	0
Transport	Database	Sphera	2025	Primary data	0,27	0,27	0,27	0,27
Total					**65,48**	**65,48**	**65,48**	**65,48**

Environmental indicator results per declared unit for each module are reported in the following tables.

Environmental indicator results are calculated according to ISO 14025 and EN 15804+A2:2019. Results are expressed per declared unit – 1 ton of a crushed aggregate.

Mandatory impact category indicators according to EN 15804 of Quarry stone- rock fill, crushed rock fill, crushed gravel and graded crushed aggregates

Indicator	Unit	A1-A3
GWP-total	kg CO_2 eq.	1,23E+00
GWP-fossil	kg CO_2 eq.	1,21E+00
GWP-biogenic	kg CO_2 eq.	1,34E-03
GWP- luluc	kg CO_2 eq.	1,03E-02
ODP	kg CFC 11 eq.	3,33E-11
AP	mol H^+ eq.	5,14E-03
EP-freshwater	kg P eq.	3,72E-06
EP- marine	kg N eq.	2,50E-03
EP-terrestrial	mol N eq.	2,62E-02
POCP	kg NMVOC eq.	6,46E-03
ADP-minerals & metals	kg Sb eq.	7,24E-07
ADP-fossil	MJ	1,53E+01
WDP	m^3	3,33E-02

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

Additional mandatory and voluntary impact category indicators of Quarry stone- rock fill, crushed rock fill, crushed gravel and graded crushed aggregates

Indicator	Unit	A1-A3
GWP-GHG	kg CO_2 eq.	1,23E+00
Particulate matter	Disease incidences	6,50E-08
Ionising radiation, human health	kBq U235 eq.	9,66E-03
Ecotoxicity fresh water	CTUe	1,70E+01
Human toxicity, cancer	CTUh	2,33E-10
Human toxicity, non-cancer	CTUh	1,28E-08
Land Use	Pt	3,17E+02

Note: This indicator accounts for all greenhouse gases except biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. As such, the indicator is identical to GWP-total except that the CF for biogenic CO2 is set to zero.

Resource use indicators of Quarry stone- rock fill, crushed rock fill, crushed gravel and graded crushed aggregates

Indicator	Unit	A1-A3
PERE	MJ	1,22E+00
PERM	MJ	0,00E+00
PERT	MJ	1,22E+00
PENRE	MJ	1,53E+01
PENRM	MJ	0,00E+00
PENRT	MJ	1,53E+01
SM	kg	5,87E-06
RSF	MJ	0,00E+00
NRSF	MJ	0,00E+00
FW	m^3	1,29E-03

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.

Waste indicators of Quarry stone- rock fill, crushed rock fill, crushed gravel and graded crushed aggregates

Indicator	Unit	A1-A3
Hazardous waste disposed	kg	1,16E-04
Non-hazardous waste disposed	kg	3,57E-03
Radioactive waste disposed	kg	6,06E-05

Output flow indicators of Quarry stone- rock fill, crushed rock fill, crushed gravel and graded crushed aggregates

Indicator	Unit	A1-A3
Components for re-use	kg	0,00E+00
Material for recycling	kg	5,31E-05
Materials for energy recovery	kg	0,00E+00
Exported energy, electricity	MJ	0,00E+00
Exported energy, thermal	MJ	0,00E+00

RELEASE OF DANGEROUS SUBSTANCES DURING THE USE STAGE

No health and environmental impacts during use are observed.

REFERENCES

ISO 14020:2000 Environmental labels and declarations – General principles, 2000-09

ISO 14025: EN ISO 14025:2006: Environmental labels and declarations – Type III environmental declarations – Principles and procedures

ISO 14040:2006 Environmental management – Life cycle assessment – Principles and framework, 2006-07

ISO 14044:2006 Environmental management – Life cycle assessment – Requirements and guidelines, 2006-07

EN 15804:2012 +A2:2019/AC:2022 European Committee for Standardization: Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products, 2021.

Sphera: LCA for Experts software, 2026, Sphera solutions.

Ecoinvent, www.ecoinvent.org