

# Environmental Product Declaration



In accordance with ISO 14025:2006 and EN 15804:2012+A2:2019/AC:2021 for:

## Asphalt

from

**Autokausta UAB**



Programme:

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

Programme operator:

EPD International AB

EPD registration number:

S-P-10887

Publication date:

2023-11-14

Valid until:

2028-11-13

*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): <i>PCR 2019:14 Construction products (EN 15804:A2) (1.3.1) and UN CPC 153 – Sands, pebbles, gravel, broken or crushed stone, natural bitumen and asphalt</i>
PCR review was conducted by: <i>IVL Swedish Environmental Research Institute Secretariat of the International EPD® System</i>
<b>Life Cycle Assessment (LCA)</b>
LCA accountability: <i>Dr. Ing. Kaspars Zudrags, BM Certification</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: <i>Prof. Vladimír Kočí, PhD, LCA Studio</i>  Approved by: The International EPD® System
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 registered in different EPD programmes, or not compliant with EN 15804, 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 characterisation factors); have equivalent content declarations; 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: Autokausta UAB

Contact: statyba@autokausta.lt

Description of the organisation: Autokausta UAB is the biggest construction company in Lithuania which has set up the largest and the most modern asphalt concrete and bitumen emulsion plant.

Name and location of production site(s): Autokausta UAB, V.Krėvės pr. 128g., Kaunas, Lithuania.

## Product information

Product name: Asphalt

Product identification: EN 13108-1:2016; EN 13108-2:2016; EN 13108-3:2016; EN 13108-5:2016; EN 13108-6:2016; EN 13108-7:2016.

Product description: The asphalt concrete produced is certified and meets all quality requirements that are strictly controlled by the laboratory. At present, the following asphalt concrete mixtures are manufactured: type P, A, V, PD, SMA, SA, which are constantly being refined, new ones being created.

UN CPC code: 153 - Sands, pebbles, gravel, broken or crushed stone, natural bitumen and asphalt.

Geographical scope: Europe.

## LCA information

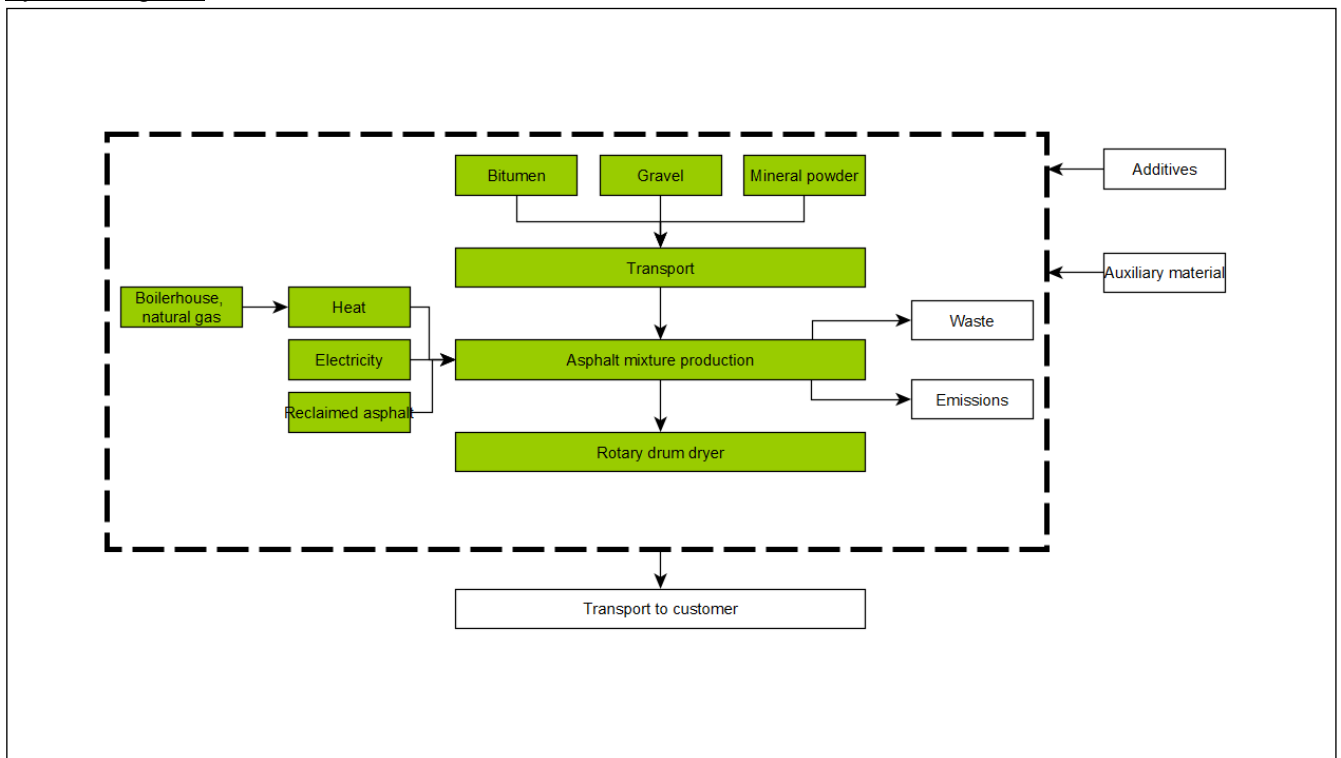
Functional unit / declared unit: the declared unit is 1tonne (1000kg) of asphalt mixture.

Time representativeness: Data for calculation were collected by Autokausta UAB and cover period of 12 months 2022.01.01 - 2022.12.31.

Database(s) and LCA software used: One Click LCA, Ecoinvent 3.8.

Description of system boundaries: Cradle to gate with modules C1–C4 and module D (A1–A3 + C + D).

System diagram:



More information: All known inputs and outputs are included in the study. The ancillary materials have been cut-off due to insufficient and minor influence of data.

The 95 % of asphalt going to recycling is crushed into raw materials for asphalt production, 5 % of the asphalt is considered lost and assumed to be landfilled. The recycling process consists of crushing the asphalt after which it is directly goes to the mixture for the foundations with a crushed stone mixture or manufacturing process of asphalt.

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

	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 use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential
Module	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Modules declared	X	X	X	X	X	ND	ND	ND	ND	ND	ND	ND	X	X	X	X	X
Geography	Europe	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Specific data used	<90%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – products	<10%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – sites	-			-	-	-	-	-	-	-	-	-	-	-	-	-	-

X – included, ND – Module Not Declared.

## Content information

Product components	Weight, kg	Post-consumer material, weight-%	Biogenic material, weight-% and kg C/kg
Gravel	915	0	0
Bitumen	46	0	0
Mineral powder	39	0	0
Additives	>1	0	0
TOTAL	1000		

The product contains no REACH SVHC substances in amounts greater than 0,1 % (1000 ppm).

## Results of the environmental performance indicators

### Mandatory impact category indicators according to EN 15804:2012+A2:2019

Results per functional or declared unit									
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP-total	kg CO <sub>2</sub> eq.	6.43E+01	9,29E+00	3,22E-01	5,01E-01	9,39E+00	2,82E-01	9,00E-01	-7,05E+00
GWP-fossil	kg CO <sub>2</sub> eq.	6.42E+01	9,38E+00	3,22E-01	5,01E-01	9,38E+00	2,79E-01	8,95E-01	-7,02E+00
GWP-biogenic	kg CO <sub>2</sub> eq.	8.45E-02	3,63E-03	2,39E-04	3,72E-04	3,63E-03	1,72E-03	4,37E-03	-2,25E-02
GWP-luluc	kg CO <sub>2</sub> eq.	3.81E-02	3,46E-03	9,37E-05	1,46E-04	3,46E-03	6,33E-04	5,38E-04	-9,50E-03
ODP	kg CFC 11 eq.	2.29E-05	2,16E-06	4,98E-07	7,74E-07	2,16E-06	1,43E-08	1,60E-07	-7,46E-07
AP	mol H <sup>+</sup> eq.	2.68E-01	3,97E-02	3,78E-03	5,88E-03	3,97E-02	1,50E-03	4,64E-03	-4,78E-02
EP-freshwater	kg P eq.	9.50E-04	7,68E-05	2,69E-06	4,19E-06	7,68E-05	2,88E-05	8,24E-06	-3,47E-04
EP-marine	kg N eq.	5.07E-02	1,18E-02	4,52E-04	7,03E-04	1,18E-02	2,09E-04	1,78E-03	-1,27E-02
EP-terrestrial	mol N eq.	5.79E-01	1,30E-01	4,97E-03	7,73E-03	1,30E-01	2,37E-03	1,67E-02	-1,47E-01
POCP	kg NMVOC eq.	2.03E+00	4,17E-02	2,04E-03	3,17E-03	4,17E-02	6,78E-04	4,93E-03	-4,01E-02
ADP-minerals&metals*	kg Sb eq.	2.76E-04	2,20E-05	3,97E-07	6,17E-07	2,20E-05	7,58E-07	1,77E-06	-5,78E-05
ADP-fossil*	MJ	1.83E+03	1,41E+02	2,94E+01	4,58E+01	1,41E+02	5,85E+00	1,22E+01	-1,07E+02
WDP*	m <sup>3</sup>	2.56E+01	6,31E-01	4,24E-02	6,60E-02	6,31E-01	1,54E-01	7,11E-02	-1,97E+00
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								

\* Disclaimer: The results of this environmental impact indicator shall be used with care as the uncertainties of these results are high or as there is limited experience with the indicator.

### Additional mandatory and voluntary impact category indicators

Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP-GHG <sup>1</sup>	kg CO <sub>2</sub> eq.	6.42E+01	9,38E+00	3,22E-01	5,01E-01	9,38E+00	2,79E-01	8,95E-01	-7,02E+00

### Resource use indicators

#### Results per functional or declared unit

Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
PERE	MJ	5.03E+01	1,59E+00	8,28E-02	1,29E-01	1,59E+00	1,01E+00	2,12E-01	-1,23E+01
PERM	MJ	0.00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	MJ	5.03E+01	1,59E+00	8,28E-02	1,29E-01	1,59E+00	1,01E+00	2,12E-01	-1,23E+01
PENRE	MJ	1.36E+03	1,41E+02	5,34E+00	8,30E+00	1,41E+02	5,84E+00	1,22E+01	-1,07E+02
PENRM	MJ	6.22E+02	0,00E+00	2,41E+01	3,74E+01	0,00E+00	0,00E+00	0,00E+00	-1,98E+02
PENRT	MJ	1.98E+03	1,41E+02	2,94E+01	4,58E+01	1,41E+02	5,84E+00	1,22E+01	-3,05E+02
SM	kg	2.95E-01	3,91E-02	1,32E-03	2,06E-03	3,91E-02	3,19E-03	4,38E-03	-6,22E-02
RSF	MJ	2.43E-03	3,95E-04	2,29E-05	3,56E-05	3,95E-04	3,52E-06	1,68E-04	-3,87E-04
NRSF	MJ	0.00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	m <sup>3</sup>	6.31E-01	1,83E-02	8,61E-04	1,34E-03	1,83E-02	4,86E-03	1,31E-02	-1,31E+00

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

<sup>1</sup> 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 CO<sub>2</sub> is set to zero.

## Waste indicators

Results per functional or declared unit									
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
HW	kg	2.29E+00	1,87E-01	7,66E-03	1,19E-02	1,87E-01	0,00E+00	0,00E+00	-4,76E-01
NHW	kg	3.95E+01	3,07E+00	1,04E-01	1,61E-01	3,07E+00	0,00E+00	5,00E+01	-1,53E+01
RW	kg	9.22E-03	9,43E-04	2,13E-04	3,31E-04	9,43E-04	0,00E+00	0,00E+00	-6,34E-04
Acronyms	HW = Hazardous waste disposed; NHW = Non-hazardous waste disposed; RW = Radioactive waste disposed								

## Output flow indicators

Results per functional or declared unit									
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
Components for re-use	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Material for recycling	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.50E+02	0.00E+00	0.00E+00
Materials for energy recovery	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy, electricity	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy, thermal	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00



## References

General Programme Instructions of the International EPD® System. Version 4.0.

PCR 2019:14 Construction products (EN 15804:A2) (1.3.1)

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.

Ecoinvent database v3.8 and One Click LCA database.

LCA background report 20.08.2023

