

Environmental Product Declaration



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

Filler

from

AB Dolomitas

Publication date: 2021-06-07

Valid until: 2026-06-07



Company information

Owner of the EPD: AB Dolomitas

Contact: biuras@dolomitas.lt

Description of the organisation: The public limited liability company Dolomitas started its activities in 1964, when the first Lithuanian dolomite deposits were explored and put into operation. Today the company excavates and processes high-quality raw materials at the Petrašiūnai-2 Deposit. Production covers the full cycle from extraction, production to delivery to customers. The company consistently invests in upgrading its production capacities and optimising its existing processes. The company's products are certified not only in Lithuania but also in Latvia, and Russia. According to the product certification requirements of those countries.

AB Dolomitas is a member of the Lithuanian Roads Association, the Lithuanian Quarry Association, Šiauliai Association of Industrialists, and the Association of Construction Product Testing Laboratories. The company has implemented a quality management system according to ISO 9001:2015. AB Dolomitas has product testing laboratory accredited according to General requirements for the competence of testing and calibration laboratories (ISO/IEC 17025:2017) EN ISO/IEC 17025:2017.

Product-related or management system-related certifications:

The product is certified according to these standards:

EN 13043:2002 - Aggregates for bituminous mixtures and surface treatments for roads, airfields, and other trafficked areas, EN 13043:2002/AC:2004 Aggregates for bituminous mixtures and surface treatments for roads, airfields and other trafficked areas.

EN-12620+A1:2008 - Aggregates for Concrete.

Name and location of production site(s): Dolomito str. 6, LT-83477 Petrašiūnų vlg., Pakruojis distr., Lithuania

Product information

Product name: Filler

Product description: Filler produced by AB Dolomitas is widely used to produce asphalt, asphalt finishing and reinforced concrete. Filler is an important material because it strongly influences the properties of the asphalt mixture and is an important element of the mixture forming the structure of asphalt. Filler has the largest surface area, even larger than that of sand: it accounts for up to 90-95% of the total surface area of all fillers constituting the asphalt concrete mixture. Filler extends the interaction surface of particles, improves the thermal resistance of bitumen and asphalt concrete, reduces the thermal expansion of the binding material, reduces plastic strain during vehicle braking, and increases the density of the mixture.

The scope of application of dolomite filler is sufficiently broad and ranges from industry (production of dry construction mixtures, concrete, bitumen roofing, and glass) to agriculture (production of feed additives, premixes, and fertilizers and soil improvement).

UN CPC code: 15320

Geographical scope: Europe

LCA information

Functional unit / declared unit: In accordance with the PCR the declared unit is 1 metric tonne of the product.

Time representativeness: Primary data were collected internally. The production data refer to an average of the year 2020.

Database(s) and LCA software used: The Ecoinvent database provides the life cycle inventory data for the raw and process materials obtained from the background system. The used database is Ecoinvent 3.6. The LCA software used is One Click LCA.

Description of system boundaries: Cradle to gate with options. The LCA was carried out considering the Product stage phases (A1-A2-A3) and Distribution (A4) in accordance with EN 15804.

Data quality: The foreground data collected internally is based on yearly production amounts and extrapolations of measurements on specific machines and plants. Overall, the data quality can be described as good. The primary data collection has been done thoroughly.

Cut-off criteria: Life cycle inventory data for a minimum of 99% of total material and energy input flows have been included in the life cycle analysis. Although only materials having in summa less than 1% of weight of product were not used in calculations.

System boundary:

	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	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

Description of the system boundary (X = Included in LCA; MND = Module Not declared)

Product stage:

A1: This stage considers the extraction and processing of raw materials as well as energy consumption.

A2: The raw materials are transported to the manufacturing plant.

A3: This stage includes the manufacture of product. It also considers the energy consumption and waste generated in the production plant.

Production process description

Production of filler starts with dolomite aggregates crushing and grinding. Dolomite aggregates are extracted by AB Dolomitas as well. When extracting virgin rock at the site, the first step is to remove the overburden, like soil, moraine and trees, with an excavator to uncover the hard rock. After removal of the overburden, holes are drilled, filled with explosives, and detonated. After the blast, the raw material is fed into the production process using a combination of excavators, wheel loaders and/or dumper trucks. The continued production process is a combination of material feeders, conveyor belts, crushers and screens that transports, breaks, and sorts the material into different fraction products. Aggregates are crushed to 2mm, 0,125mm or 0,063 mm fractions. By using liquified petroleum gasses produced filler is dried to no more than 1% humidity content. Then it is weighted and stored till transportation to customers.

Construction process stage:

A4: This stage includes transportation from the production gate to the construction site where the product shall be installed.

Transportation is calculated based on data form manufacturer and a scenario with the parameters described in the following table.

Parameter	Value/Description
Vehicle type used for transport	EURO 5 truck with a trailer with an average load of 32t and container ship
Distance	100% of production: Truck – 131 km;
Capacity utilization	56 % of the capacity in volume (truck)

Content information

Product components	Weight, %
Dolomite aggregates	100
TOTAL	100

No dangerous substances from the candidate list of SVHC for Authorisation are used in the product.

Packaging

Distribution packaging: No packaging, delivered as bulk material.

Environmental Information

Potential environmental impact – mandatory indicators according to EN 15804:2012+A2:2019

Results per functional or declared unit						
Indicator	Unit	A1	A2	A3	Tot.A1-A3	A4
GWP-total	kg CO ₂ eq.	0,00E+00	6,368E-4	1,26E+01	1,26E+01	1,19E+01
GWP-fossil	kg CO ₂ eq.	0,00E+00	6,362E-4	1,25E+01	1,25E+01	1,19E+01
GWP-biogenic	kg CO ₂ eq.	0,00E+00	2,904E-7	5,873E-2	5,873E-2	8,646E-3
GWP-luluc	kg CO ₂ eq.	0,00E+00	3,566E-7	6,517E-3	6,517E-3	3,583E-3
ODP	kg CFC 11 eq.	0,00E+00	1,36E-10	2,675E-6	2,676E-6	2,799E-6
AP	mol H ⁺ eq.	0,00E+00	2,505E-6	2,183E-1	2,183E-1	5E-2
EP-freshwater	kg P eq.	0,00E+00	7,501E-9	4,047E-4	4,047E-4	9,685E-5
EP-marine	kg N eq.	0,00E+00	6,713E-7	7,449E-2	7,449E-2	1,507E-2
EP-terrestrial	mol N eq.	0,00E+00	7,453E-6	1,03E+00	1,03E+00	1,664E-1
POCP	kg NMVOC eq.	0,00E+00	2,326E-6	2,141E-1	2,141E-1	5,351E-2
ADP-minerals&metals*	kg Sb eq.	2,934E-7	3,132E-8	6,557E-5	6,59E-5	2,032E-4
ADP-fossil*	MJ	0,00E+00	9,415E-3	1,72E+02	1,72E+02	1,85E+02
WDP	m ³	0,00E+00	3,904E-5	5,15E+03	5,15E+03	6,889E-1
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.

Use of resources

Results per functional or declared unit						
Indicator	Unit	A1	A2	A3	Tot.A1-A3	A4
PERE	MJ	0,00E+00	2,022E-4	1,70E+02	1,70E+02	2,33E+00
PERM	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	MJ	0,00E+00	2,022E-4	1,70E+02	1,70E+02	2,33E+00
PENRE	MJ	0,00E+00	9,415E-3	1,72E+02	1,72E+02	1,85E+02
PENRM	MJ.	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PENRT	MJ	0,00E+00	9,415E-3	1,72E+02	1,72E+02	1,85E+02
SM	kg	0,00E+00	0,00E+00	2,51E-1	2,51E-1	0,00E+00
RSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NRSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	m ³	0,00E+00	1,723E-6	2,655E-2	2,655E-2	3,856E-2
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 resources; 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 production and output flows

Waste production

Results per functional or declared unit						
Indicator	Unit	A1	A2	A3	Tot.A1-A3	A4
Hazardous waste disposed	kg	0,00E+00	1,351E-5	2,363E-1	2,363E-1	1,8E-1
Non-hazardous waste disposed	kg	0,00E+00	5,9E-4	4,32E+00	4,32E+00	1,99E+01
Radioactive waste disposed	kg	0,00E+00	6,264E-8	1,169E-3	1,169E-3	1,271E-3


Output flows

Results per functional or declared unit						
Indicator	Unit	A1	A2	A3	Tot.A1-A3	A4
Components for re-use	kg	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
Materials for energy recovery	kg	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
Exported energy, thermal	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

ENVIRONMENTAL IMPACTS – EN 15804+A1, CML / ISO 21930

Results per functional or declared unit						
Indicator	Unit	A1	A2	A3	A1-A3	A4
GWP	kg CO ₂ eq.	0,00E+00	6,3E-4	1,24E+01	1,24E+01	1,18E+01
ODP	kg CFC 11 eq.	0,00E+00	1,088E-10	2,137E-6	2,137E-6	2,225E-6
AP	mol H ⁺ eq.	0,00E+00	1,392E-6	3,863E-2	3,864E-2	2,422E-2
EP	kg PO ₄ ³⁻ eq.	0,00E+00	3,338E-7	9,867E-3	9,867E-3	4,893E-3
POCP	kg Ethene	0,00E+00	9,095E-8	2,521E-3	2,522E-3	1,535E-3
ADP-minerals & metals*	kg Sb eq.	2,934E-7	3,132E-8	6,557E-5	6,59E-5	2,032E-4
ADP-fossil*	MJ	0,00E+00	9,415E-3	1,72E+02	1,72E+02	1,85E+02
Acronyms	GWP = Global Warming Potential; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential; EP = Eutrophication potential; POCP = Formation of ozone of lower atmosphere; 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					

Declaration information

CEN standard EN 15804 serves as the Core Product Category Rules (PCR)
Product category rules (PCR): PCR 2019:14 Construction products (version 1.1)
Independent third-party verification of the declaration and data, according to ISO 14025:2006: <input type="checkbox"/> EPD process certification <input checked="" type="checkbox"/> EPD verification
Third party verifier: Silvia Vilčeková  Silcert, s.r.o. silcertsro@gmail.com
Procedure for follow-up of data during EPD validity involves third party verifier: <input checked="" type="checkbox"/> Yes <input 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.

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 15804:2012+A2:2019 Sustainability of construction works. Environmental product declarations. Core rules for the product category of construction products.

PCR 2019:14 Construction products (version 1.1).

Tools and database

- One Click LCA tool;
- Ecoinvent 3.6 database

Contact information

EPD owner:	 Dolomitas AB Dolomitas https://www.dolomitas.lt
LCA author:	 Sustainability Consulting Vesta Consulting, UAB https://www.vestaconsulting.lt/