

ENVIRONMENTAL PRODUCT DECLARATION

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

CRUSHED STONE DESTIA OY

Programme: The
International EPD[®]
System,
www.environdec.com

Programme operator:
EPD International AB

EPD registration
number:
S-P-07875

Publication date:
2022-12-19

Valid until:
2027-12-09

Geographical
scope:
Finland



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.

GENERAL INFORMATION

MANUFACTURER INFORMATION

Manufacturer	Destia Oy
Address	Neilikkatie 17, 01301 Vantaa
Contact details	tiina.ullgren@destia.fi
Website	www.destia.fi

PRODUCT IDENTIFICATION

Product name	Crushed stone
Product number / reference	24506
Place(s) of production	Kukkulamäki, Joutsa
CPC code	15320 Pebbles, gravel, broken or crushed stone, macadam; granules, chippings and powder of stone

The International EPD System

EPDs within the same product category but from different programmes may not be comparable.

EPD INFORMATION

The EPD owner has the sole ownership, liability, and responsibility for the EPD. Construction products EPDs may not be comparable if they do not comply with EN 15804 and if they are not compared in a building context.

EPD program operator	The International EPD System
EPD standards	This EPD is in accordance with EN 15804+A2 and ISO 14025 standards.
Product category rules	The CEN standard EN 15804 serves as the core PCR. In addition, the Int'l EPD System PCR 2019:14 Construction products, version 1.11 (05.02.2021) is used. Product specific complementary category rules have not been applied in this EPD
EPD author	Tiina Ullgren, Destia Oy, www.destia.fi
EPD verification	Independent verification of this EPD and data, according to ISO 14025: <input type="checkbox"/> Internal certification <input checked="" type="checkbox"/> External verification
Verification date	2022-12-09
EPD verifier	Ipek Goktas, One Click LCA, www.oneclicklca.com
EPD number	S-P-07875
ECO Platform nr.	-
Publishing date	2022-12-19
EPD valid until	2027-12-09

PRODUCT INFORMATION

PRODUCT DESCRIPTION

Aggregates are produced in various sizes from 0/3 mm to 8/22 mm in a mobile crushing plant. There are five types of aggregates declared in this EPD, and they represent the products manufactured. All the products have a similar production process so in this EPD there is only one product group.

PRODUCT APPLICATION

Aggregates are used as filling material in civil engineering, in asphalt and as grit in road maintenance.

TECHNICAL SPECIFICATIONS

Rock type is mainly granite.

PRODUCT STANDARDS

Aggregates for bituminous mixtures and surface treatments for roads, airfields and other trafficked areas: SFS-EN 13043 + AC

PHYSICAL PROPERTIES OF THE PRODUCT

The different product sizes are 0/3, 0/16, 4/8, 8/16 and 8/22.

ADDITIONAL TECHNICAL INFORMATION

Further information can be found at www.destia.fi.

PRODUCT RAW MATERIAL COMPOSITION

Product and Packaging Material	Weight, kg	Post-consumer %	Renewable %	Country Region of origin
Crushed stone	1000	-	-	FI

SUBSTANCES, REACH - VERY HIGH CONCERN

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

PRODUCT LIFE-CYCLE

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.

The products declared are produced in Kukkulamäki crushing site in Joutsa.

First, the overburden, like soil, moraine and vegetation, is removed on top of the hard rock. The overburden is stored within the quarry and is used in rehabilitation and landscaping of the quarry at the end of its life. Then the holes are drilled into the rock, filled with explosives and detonated. The blasted raw material is fed into the jaw crusher by a dumper truck. After that the rock goes through three other crushing stages before it has the right dimensions. In the crushing process the rock is transported by conveyors and finally sieved into piles and stored.

TRANSPORT AND INSTALLATION (A4-A5)

Transportation impacts occurred from final products delivery to construction site (A4) cover fuel direct exhaust emissions,

environmental impacts of fuel production, as well as related infrastructure emissions.

The crushed stone is used in asphalt and to grit roads. The asphalt plant is stationary, and the distance is fixed. Also, the distance to the site to store the grit is fixed. The transportation method is assumed to be lorry. Vehicle capacity utilization volume factor is assumed to be 100 % which means full load. In reality, it may vary but the variety in load is assumed to be negligible. Empty returns are not taken into account as it is assumed that return trip is used by the transportation company to serve the needs of other clients. Transportation does not cause losses.

PRODUCT USE AND MAINTENANCE (B1-B7)

This EPD does not cover the use phase.

Air, soil, and water impacts during the use phase have not been studied.

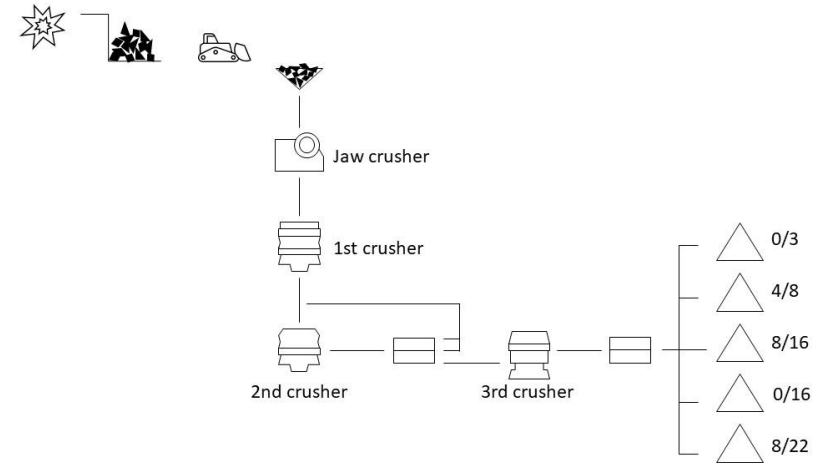
PRODUCT END OF LIFE (C1-C4, D)

First, the asphalt layer is taken off of the road surface with excavators or with a special grinding machine (C1). The pieces of asphalt are transported to a site where they are screened, sized and prepared to make new asphalt surfaces (C2, C3). In some cases asphalt can be processed and re-used at the site, so it is not transported. An asphalt mass can contain up to 80 % re-used asphalt. It has been assumed that 93% of the asphalt mass will be recycled. The assumption is based on the prevailing operating

method in Finland, where it is estimated that 100 % of asphalt is recycled in new asphalt. Since we are not the end users of the material, we use a margin of error of 7 percent.

The gravel used in asphalt can be re-used in a new asphalt mass (D). This reduces the need for virgin aggregates. The gravel used in gritting is landfilled (C4).

MANUFACTURING PROCESS



LIFE-CYCLE ASSESSMENT

LIFE-CYCLE ASSESSMENT INFORMATION

Period for data	Calendar year 2021
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DECLARED AND FUNCTIONAL UNIT

Declared unit	1 tonne
Mass per declared unit	1000 kg

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

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

SYSTEM BOUNDARY

This EPD covers the cradle to gate with modules scope with the following modules: A1 (Raw material supply), A2 (Transport) and A3 (Manufacturing) as well as C1 (Deconstruction), C2 (Transport at end-of-life), C3 (Waste processing) and C4 (Disposal). In addition, module D - benefits and loads beyond the system boundary is included.

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	D	D
x	x	x	MN D	MN D	MN D	MN D	MN D	MN D	MN D	MN D	MN D	x	x	x	x	x	x	x
Geography , by two-letter ISO country code or regions. The International EPD System only.																		
FI	FI	FI	FI	FI	-	-	-	-	-	-	-	FI	FI	FI	FI			FI
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstr./demol.	Transport	Waste processing	Disposal	Reuse	Recovery	Recycling

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

CUT-OFF CRITERIA

The study does not exclude any modules or processes which are stated mandatory in the EN 15804:2012+A2:2019 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.

For easier modelling and because of lack of accuracy in available modelling resources many constituents under 0,1% of product mass are excluded. These include some ancillary materials which are all present in the process only in very small amounts and have no

serious impact on the emissions of the product.

The personnel-related activities, energy and water use related to company management and sales activities are excluded.

ALLOCATION, ESTIMATES AND ASSUMPTIONS

Allocation is required if some material, energy, and waste data cannot be measured separately for the product under investigation.

In this study, as per EN 15804, allocation is conducted in the following order;

1. Allocation should be avoided.
2. Allocation should be based on physical properties (e.g. mass, volume) when the difference in revenue is small.
3. Allocation should be based on economic values.

The crushing process for all different product sizes are almost similar. This is why allocation between product sizes is not made. The process produces no co-products and all raw material is used. Materials for recycling of reuse come from ancillary materials of in the end of life stage.

As the processes for all products are very similar regardless of the type, ancillary materials, energy consumption and waste streams are assumed to be the same for all types of products. Subsequently, the amounts for the flows were calculated by dividing the total inputs by

the total output of the facility.

Allocation used in Ecoinvent 3.6 environmental data sources follows the methodology 'allocation, cut-off by classification'. This methodology is in line with the requirements of the EN 15804 - standard.

All estimates and assumptions can be found in the section "PRODUCT LIFE-CYCLE".

AVERAGES AND VARIABILITY

There is no average result considered in this study since this EPD refers to 1 tonne of crushed stone (0/3 mm to 8/22 mm) produced in one production plant.

The International EPD System additional data requirements

Data specificity and GWP-GHG variability for GWP-GHG for A1-A3.

Supply-chain specific data for GWP-GHG	>90 %
Variation in GWP-GHG between products	- %
Variation in GWP-GHG between sites	- %

ENVIRONMENTAL IMPACT DATA

Note: additional environmental impact data may be presented in annexes.

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP – total	kg CO ₂ e	2,92E0	4,45E-2	3,27E0	6,24E0	5,9E0	MND	MND	MND	MND	MND	MND	MND	MND	6,6E-1	5,01E0	0E0	8,71E-1	-7,79E0
GWP – fossil	kg CO ₂ e	2,94E0	4,45E-2	3,26E0	6,25E0	5,95E0	MND	MND	MND	MND	MND	MND	MND	MND	6,59E-1	5E0	0E0	8,7E-1	-7,68E0
GWP – biogenic	kg CO ₂ e	-2,64E-2	3,23E-5	1,44E-2	-1,2E-2	3,17E-3	MND	MND	MND	MND	MND	MND	MND	MND	1,83E-4	2,67E-3	0E0	9,59E-4	-9,49E-2
GWP – LULUC	kg CO ₂ e	5,42E-3	1,34E-5	5,3E-4	5,96E-3	2,11E-3	MND	MND	MND	MND	MND	MND	MND	MND	5,57E-5	1,77E-3	0E0	2,6E-4	-9,97E-3
Ozone depletion pot.	kg CFC ₁₁ e	1,75E-7	1,05E-8	6,63E-7	8,49E-7	1,35E-6	MND	MND	MND	MND	MND	MND	MND	MND	1,42E-7	1,14E-6	0E0	2,58E-7	-6,97E-7
Acidification potential	mol H ⁺ e	1,66E-1	1,87E-4	3,63E-2	2,02E-1	2,43E-2	MND	MND	MND	MND	MND	MND	MND	MND	6,9E-3	2,04E-2	0E0	7,84E-3	-5,02E-2
EP-freshwater ³⁾	kg Pe	1,51E-4	3,62E-7	3,06E-5	1,82E-4	4,98E-5	MND	MND	MND	MND	MND	MND	MND	MND	2,67E-6	4,18E-5	0E0	8,72E-6	-4,93E-4
EP-marine	kg Ne	4,89E-2	5,63E-5	1,58E-2	6,48E-2	7,22E-3	MND	MND	MND	MND	MND	MND	MND	MND	3,05E-3	6,07E-3	0E0	3,01E-3	-1,06E-2
EP-terrestrial	mol Ne	7,97E-1	6,22E-4	1,72E-1	9,7E-1	7,98E-2	MND	MND	MND	MND	MND	MND	MND	MND	3,34E-2	6,7E-2	0E0	3,3E-2	-1,4E-1
POCP (“smog”)	kg NMVOCe	1,46E-1	2E-4	4,67E-2	1,93E-1	2,44E-2	MND	MND	MND	MND	MND	MND	MND	MND	9,18E-3	2,05E-2	0E0	9,33E-3	-3,53E-2
ADP-minerals & metals	kg Sbe	1,43E-4	7,59E-7	1,69E-5	1,61E-4	1,61E-4	MND	MND	MND	MND	MND	MND	MND	MND	1,01E-6	1,35E-4	0E0	8,72E-6	-8,48E-4
ADP-fossil resources	MJ	2,58E1	6,92E-1	4,43E1	7,08E1	8,97E1	MND	MND	MND	MND	MND	MND	MND	MND	9,07E0	7,54E1	0E0	1,74E1	-1,1E2
Water use ²⁾	m ³ e depr.	1,16E0	2,57E-3	1,43E-1	1,3E0	2,89E-1	MND	MND	MND	MND	MND	MND	MND	MND	1,69E-2	2,43E-1	0E0	5,01E-1	-1,37E1

1) GWP = Global Warming Potential; EP = Eutrophication potential; POCP = Photochemical ozone formation; ADP = Abiotic depletion potential. 2) 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 experienced with the indicator. 3) Required characterisation method and data are in kg P-eq. Multiply by 3,07 to get PO₄e.

USE OF NATURAL RESOURCES

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Renew. PER as energy	MJ	2,38E0	8,71E-3	5,45E-1	2,94E0	1,27E0	MND	MND	MND	MND	MND	MND	MND	MND	4,91E-2	1,06E0	0E0	1,65E-1	-9,4E0
Renew. PER as material	MJ	0E0	0E0	0E0	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0
Total use of renew. PER	MJ	2,38E0	8,71E-3	5,45E-1	2,94E0	1,27E0	MND	MND	MND	MND	MND	MND	MND	MND	4,91E-2	1,06E0	0E0	1,65E-1	-9,4E0
Non-re. PER as energy	MJ	2,58E1	6,92E-1	4,43E1	7,08E1	8,97E1	MND	MND	MND	MND	MND	MND	MND	MND	9,07E0	7,54E1	0E0	1,74E1	-1,1E2
Non-re. PER as material	MJ	0E0	0E0	0E0	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0
Total use of non-re. PER	MJ	2,58E1	6,92E-1	4,43E1	7,08E1	8,97E1	MND	MND	MND	MND	MND	MND	MND	MND	9,07E0	7,54E1	0E0	1,74E1	-1,1E2

Secondary materials	kg	4,68E-1	0E0	5,34E-2	5,21E-1	0E0	MND	MND	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0
Renew. secondary fuels	MJ	0E0	0E0	0E0	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0
Non-ren. secondary fuels	MJ	0E0	0E0	0E0	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0
Use of net fresh water	m³	2,22E-2	1,44E-4	7,57E-3	2,99E-2	1,53E-2	MND	MND	MND	MND	MND	MND	MND	MND	MND	8,01E-4	1,29E-2	0E0	1,23E-2	-1,1E0

4) PER = Primary energy resources

END OF LIFE – WASTE

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Hazardous waste	kg	4,13E-1	6,73E-4	1,05E-1	5,19E-1	9,11E-2	MND	MND	MND	MND	MND	MND	MND	MND	9,76E-3	7,66E-2	0E0	1,98E-2	-5,74E-1
Non-hazardous waste	kg	7,36E0	7,44E-2	1,17E0	8,61E0	6,26E0	MND	MND	MND	MND	MND	MND	MND	MND	1,04E-1	5,26E0	0E0	7E1	-2,35E1
Radioactive waste	kg	6,82E-5	4,75E-6	2,97E-4	3,7E-4	6,15E-4	MND	MND	MND	MND	MND	MND	MND	MND	6,35E-5	5,17E-4	0E0	1,16E-4	-5,07E-4

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Components for re-use	kg	0E0	0E0	0E0	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0
Materials for recycling	kg	0E0	0E0	7,88E-2	7,88E-2	0E0	MND	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	930	0E0	0E0
Materials for energy rec	kg	0E0	0E0	3,06E-3	3,06E-3	0E0	MND	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0
Exported energy	MJ	0E0	0E0	0E0	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0

ENVIRONMENTAL IMPACTS – GWP-GHG - THE INTERNATIONAL EPD SYSTEM

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-GHG	kg CO _{2e}	2,94E0	4,45E-2	3,26E0	6,25E0	5,95E0	MND	MND	MND	MND	MND	MND	MND	MND	6,59E-1	5E0	0E0	8,7E-1	-7,68E0

5) 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) This indicator is almost equal to the GWP indicator originally defined in EN 15804:2012+A1:2013.

SCENARIO DOCUMENTATION

Manufacturing energy scenario documentation

Scenario parameter	Value
Electricity data source and quality	Diesel, burned in diesel-electric generating set, 10mw (Reference product: diesel, burned in diesel-electric generating set, 10mw), World, ecoinvent 3.6, 2019
Electricity CO _{2e} / kWh	0.0873 (kWh->MJ)
District heating data source and quality	Diesel, burned in building machine (Reference product: diesel, burned in building machine), World, ecoinvent 3.6, 2019
District heating CO _{2e} / kWh	0.0909 (kWh->MJ)

BIBLIOGRAPHY

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ISO 14025:2010 Environmental labels and declarations – Type III environmental declarations. Principles and procedures.

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Int'l EPD System PCR 2019:14 Construction products, version 1.11 (05.02.2021)

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Crushed stone LCA background report 15.08.2022

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ABOUT THE MANUFACTURER

Destia is one of the largest aggregate manufacturers in Finland. We have about 300 aggregates extraction areas (pits and quarries) around the country. We take the environment into consideration in providing aggregate and fulfill our environmental obligations under the ISO 14001 Environmental Management System.

<https://www.destia.fi/en/services/aggregates.html>

EPD AUTHOR AND CONTRIBUTORS

Manufacturer	Destia Oy
EPD author	Tiina Ullgren, Destia Oy, www.destia.fi
EPD verifier	Ipek Goktas, One Click LCA, www.oneclicklca.com
EPD program operator	The International EPD System
Background data	This EPD is based on Ecoinvent 3.6 (cut-off) and One Click LCA databases.
LCA software	The LCA and EPD have been created using One Click LCA Pre-Verified EPD Generator

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 EN 15804, 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 background report (project report) for this EPD

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

VERIFICATION OVERVIEW

Following independent third party has verified this specific EPD:

EPD verification information	Answer
Independent EPD verifier	Firstname Lastname, Company Z,
EPD verification started on	10.04.2022
EPD verification completed on	09.12.2022
Supply-chain specific data %	>90
Approver of the EPD verifier	The International EPD System

Author & tool verification	Answer
EPD author	Tiina Ullgren, Destia Oy,
EPD author training completion	2021-08-12
Independent software verifier	Ugo Pretato, Studio Fieschi & soci
Software verification date	2021-05-11

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 EN 15804:2012+A2:2019.

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.



Ipek Goktas, One Click LCA

www.oneclicklca.com

VERIFICATION AND REGISTRATION (ENVIRONDEC)

ISO standard ISO 21930 and CEN standard EN 15804 serves as the core Product Category Rules (PCR)	
PCR	PCR 2019:14 Construction products, version 1.11
PCR review was conducted by:	The Technical Committee of the International EPD® System. See www.environdec.com/TC for a list of members. Review chair: Claudia A. Peña, University of Concepción, Chile. The review panel may be contacted via the Secretariat www.environdec.com/contact .
Independent third-party verification of the declaration and data, according to ISO 14025:2006:	Independent verification of this EPD and data, according to ISO 14025: <input type="checkbox"/> Internal certification <input checked="" type="checkbox"/> External verification
Third party verifier	Ipek Goktas, One Click LCA, www.oneclicklca.com
	Approved by: The International EPD® System Technical Committee, supported by the Secretariat
Procedure for follow-up during EPD validity involves third party verifier	<input type="checkbox"/> yes <input checked="" type="checkbox"/> no



THE INTERNATIONAL EPD® SYSTEM

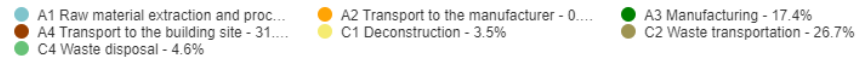
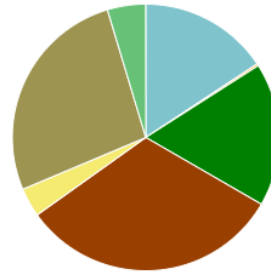
EPD International AB, Box 210 60, SE-100 31 Stockholm, Sweden, E-mail: info@environdec.com

ANNEX 1 : ENVIRONMENTAL IMPACTS – EN 15804+A1, CML / ISO 21930

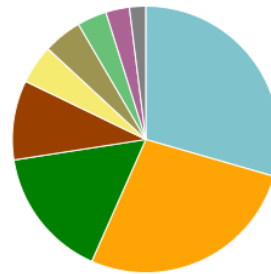
Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Global Warming Pot.	kg CO ₂ e	2,87E0	4,41E-2	3,24E0	6,15E0	5,9E0	MND	MND	MND	MND	MND	MND	MND	MND	6,54E-1	4,96E0	0E0	8,59E-1	-7,52E0
Ozone depletion Pot.	kg CFC ₁₁ e	1,52E-7	8,31E-9	5,27E-7	6,87E-7	1,08E-6	MND	MND	MND	MND	MND	MND	MND	MND	1,13E-7	9,04E-7	0E0	2,04E-7	-6,36E-7
Acidification	kg SO ₂ e	1,73E-2	9,05E-5	1,5E-2	3,24E-2	1,19E-2	MND	MND	MND	MND	MND	MND	MND	MND	9,73E-4	1E-2	0E0	2,85E-3	-3,09E-2
Eutrophication	kg PO ₄ ³ e	6,6E-3	1,83E-5	3,71E-3	1,03E-2	2,45E-3	MND	MND	MND	MND	MND	MND	MND	MND	1,71E-4	2,06E-3	0E0	6,1E-4	-1,66E-2
POCP ("smog")	kg C ₂ H ₄ e	1,73E-3	5,74E-6	7,31E-4	2,47E-3	7,86E-4	MND	MND	MND	MND	MND	MND	MND	MND	1E-4	6,6E-4	0E0	1,84E-4	-2,53E-3
ADP-elements	kg Sbe	1,43E-4	7,59E-7	1,69E-5	1,61E-4	1,61E-4	MND	MND	MND	MND	MND	MND	MND	MND	1,01E-6	1,35E-4	0E0	8,72E-6	-8,48E-4
ADP-fossil	MJ	2,58E1	6,92E-1	4,43E1	7,08E1	8,97E1	MND	MND	MND	MND	MND	MND	MND	MND	9,07E0	7,54E1	0E0	1,74E1	-1,1E2

ANNEX 2 : LIFE-CYCLE ASSESSMENT RESULT VISUALIZATION

Global Warming Potential fossil kg CO₂e - Life-cycle stages



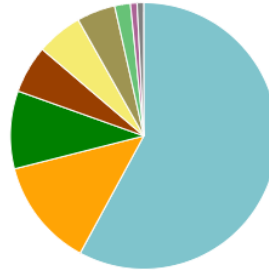
Global Warming Potential fossil kg CO2e - Classifications



- Transportation to asphalt plant - 29.6%
- Explosives - 9.6%
- Demolition of asphalt - 3.6%
- Transportation to waste processing - 9.6%
- Grit to landfill - 4.7%
- Transportation to be used in gritting - 4.7%
- Diesel for manufacturing equipment - 9.6%
- Machinery - 4.7%
- Vehicles - 2.0%

Global Warming Potential fossil kg CO2e - Resource types

This is a drilldown chart. Click on the chart to view details



- Localized shortName missing for res...
- 35: Electricity, gas, steam and air con...
- 29: Manufacture of motor vehicles, tr...
- 43: Specialized construction activities...
- 28: Manufacture of machinery and eq...
- 24: Manufacture of basic metals - 0.8%
- 20: Manufacture of chemicals and ch...
- 38: Waste collection, treatment and di...
- 25: Manufacture of fabricated metal p...