

# ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025



DRIED SAND

## EPD HUB, HUB-5598

Published on 05.03.2026, last updated on 05.03.2026, valid until 04.03.2031

EPD of multiple products and factories, based on a representative product

Life Cycle Assessment study has been performed in accordance with the requirements of EN 15804, EPD Hub PCR version 1.2 (24 Mar 2025) and JRC characterization factors EF 3.1.



LCA SUPPORT

## GENERAL INFORMATION

### MANUFACTURER

Manufacturer	OÜ INF Maavarad
Address	Vana-Narva mnt 11b, Kiiu, 74604 Harju, Estonia
Contact details	info.maavarad@inf.ee
Website	www.infmaavarad.ee

### EPD STANDARDS, SCOPE AND VERIFICATION

Program operator	EPD Hub, hub@epdhub.com
Reference standard	EN 15804:2012+A2:2019 and ISO 14025
PCR	EPD Hub Core PCR Version 1.2, 24 Mar 2025
Sector	Construction product
Category of EPD	Third party verified EPD
Scope of the EPD	Cradle to gate
EPD author	Sander Härma, LCA Support
EPD verification	Independent verification of this EPD and data, according to ISO 14025: <input type="checkbox"/> Internal verification <input checked="" type="checkbox"/> External verification
EPD verifier	Yazan Badour, as authorized verifier acting for EPD HUB Limited

This EPD is intended for business-to-business and/or business-to-consumer communication. The manufacturer has the sole ownership, liability, and responsibility for the EPD. EPDs within the same product category but from different programs may not be comparable. EPDs of construction products may not be comparable if they do not comply with EN 15804 and if they are not compared in a building context.

### PRODUCT

Product name	Dried sand
Place(s) of raw material origin	Estonia
Place of production	Harjumaa, Estonia
Period for data	01.10.2024-30.09.2025
Averaging in EPD	Multiple factories and products, based on a representative product
Variation in GWP-fossil for A1-A3 (%)	<10
A1-A3 Specific data (%)	97,9

### ENVIRONMENTAL DATA SUMMARY

Declared unit	1 tonne of aggregates
Declared unit mass	1000 kg
Mass of packaging	0 kg
GWP-fossil, A1-A3 (kgCO <sub>2</sub> e)	10,2
GWP-total, A1-A3 (kgCO <sub>2</sub> e)	10,2
Secondary material, inputs (%)	0
Secondary material, outputs (%)	0
Total energy use, A1-A3 (kWh)	36,9
Net freshwater use, A1-A3 (m <sup>3</sup> )	0,04

# PRODUCT AND MANUFACTURER

## ABOUT THE MANUFACTURER

OÜ INF Maavarad, a member of the Infortar Group, is dedicated to the sustainable production and extraction of high-quality construction minerals used in the construction materials industry, building projects, and road infrastructure. Our operations focus on delivering materials with diverse properties to meet the needs of modern construction.

In addition to extraction, the company adds value through advanced mineral processing. At our sand drying and screening facility, we produce and fractionate dry sand tailored for dry mix manufacturers, power plants, and foundries, ensuring consistent quality and reliability across every application.

## PRODUCT DESCRIPTION

The product is a dried and screened natural sand produced through the transport of raw material from the quarry to the production facility, where it is dried and screened into fractions of the required particle size.

Product Group	Product name	Standards		
		EN 13139	EN 12620	EN 13242
Dry sand	Dry sand 0/0,5	x	x	x
	Dry sand 0/0,7	x	x	x
	Dry sand 0,5/1,2	x	x	x
	Dry sand 0,6/2	x	x	x
	Dry sand 0,1/0,6	x	x	x
	Dry sand 1/3	x	x	x
	Dry sand 3/6	x	x	x

Bulk density 1,45-1,55 Mg/m<sup>3</sup>; chlorides content ≤0,01%; organic matter content - negative, activity concentration index <1.

The material is suitable for a wide range of applications, including the manufacture of construction dry-mix materials and industrial use in foundry and boiler plants. It complies with the technical requirements specified in the relevant European standards for aggregates used in these sectors.

**Applicable standards:** Product is CE-marked and complies with EN 13139:2002 for aggregates for mortar, EN 12620:2002+A1:2008 for aggregates for concrete and EN 13242:2002+A1:2007 aggregates for unbound and hydraulically bound materials for use in civil engineering work and road construction.

Further information can be found at:  
[www.lcasupport.com](http://www.lcasupport.com)

## PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals		
Minerals	100	Estonia
Fossil materials		
Bio-based materials		

## BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	0
Biogenic carbon content in packaging, kg C	0

## FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 tonne of dried sand
Mass per declared unit	1000 kg

## 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

### SYSTEM BOUNDARY

The declared unit of the study is supplied to the client. The scope of the EPD is cradle to gate (A1-A3). Modules C1-C4 and D were not declared as the product falls under exemption of statement 5.2 of EN 15804.

This EPD covers the life-cycle modules listed in the following table.

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		
X	X	X	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction/ demolition	Transport	Waste processing	Disposal	Reuse	Recovery	Recycling

Modules not declared = ND. Modules not relevant = MNR

### 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.

Dried sand production does not involve the use of manufactured raw materials. The raw material is a naturally occurring mineral resource extracted at the quarry. As no upstream raw material supply processes are applicable, module A1 does not contain any environmental impacts. All activities related to extraction, handling and processing of the material, including the use of explosives, fuels, electricity and machinery, are modelled in module A3.

#### **Raw material extraction and initial processing**

The production of dried sand begins with the extraction of mineral raw materials in open-pit quarries. Depending on geological conditions, sand and gravel deposits are excavated mechanically, while hard rock materials such as limestone or dolostone may be extracted using drilling and blasting. Extracted materials are loaded using mobile machinery and transported within the quarry area to processing units.

The raw material is processed through crushing and screening operations as required. Crushing is applied where necessary to produce suitable material for sand fractions, while screening separates the material into defined grain size classes. Screened sand fractions intended for drying are stockpiled or directly conveyed to the sand drying facility.

#### **Material reception and feeding**

Screened sand is delivered to the sand drying plant and loaded into a receiving hopper using a wheel loader. From the hopper, the material is transported via belt conveyors and elevators to the drying system.



#### **Drying and cooling**

The sand is dried in a rotating drying drum, where moisture content is reduced to meet product specifications. After drying, the material passes through a cooling unit to lower its temperature prior to further handling. Control and main screens are used to ensure consistent grain size and removal of any off-spec material.

#### **Secondary screening and fractioning**

Following drying and cooling, the sand is screened into different grain size fractions. The dried and classified material is temporarily stored in silos or hoppers before packaging or bulk handling.

#### **Packaging and storage**

Dried sand is supplied either as bulk material or in packaged form provided by the client, depending on customer requirements.

### **TRANSPORT AND INSTALLATION (A4-A5)**

This EPD does not cover the transportation and installation phase.

### **PRODUCT USE AND MAINTENANCE (B1-B7)**

This EPD does not cover the use phase.

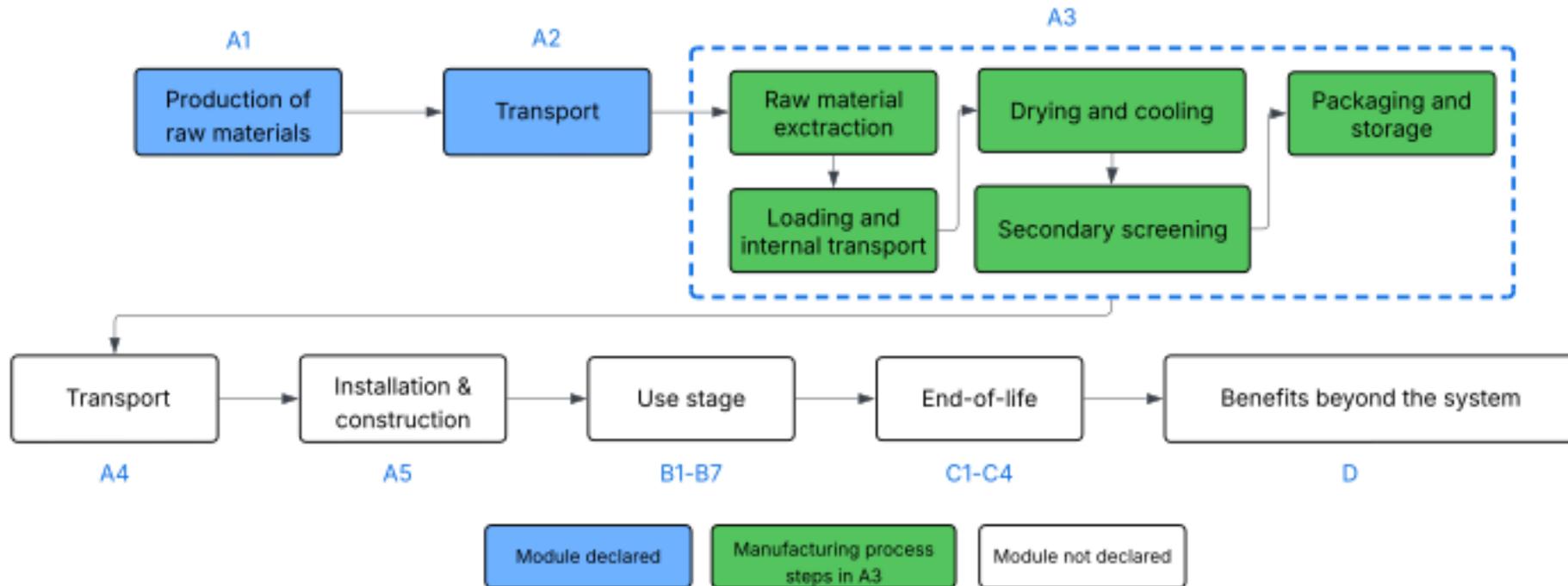
Air, soil, and water impacts during the use phase have not been studied.

### **PRODUCT END OF LIFE (C1-C4, D)**

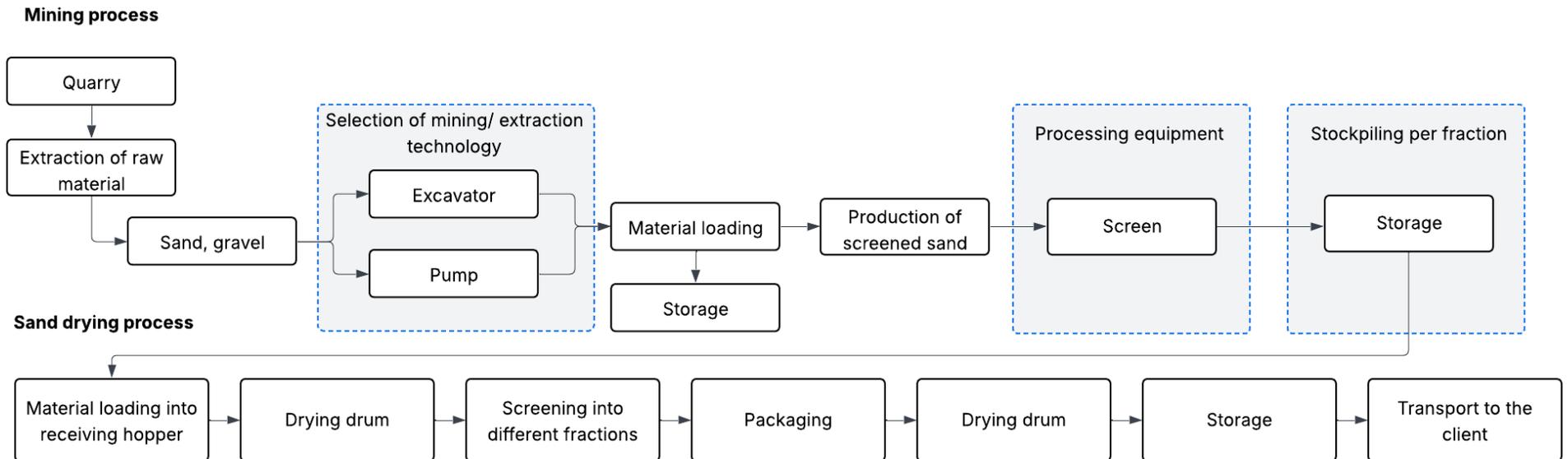
This EPD does not cover the end of life phase.

This EPD does not cover the product end of life because the material undergoes a chemical change or is integrated with other products that renders it unidentifiable. In addition, the material does not contain biogenic carbon. End-of-life scenarios for cement can be found in the EPD for concrete and mortar.

# SYSTEM DIAGRAM



# MANUFACTURING PROCESS



## LIFE-CYCLE ASSESSMENT

### CUT-OFF CRITERIA

The study does not exclude any modules or processes which are stated mandatory in the reference standard 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.

Packaging materials are excluded from this study. Packaging is not typically used in the supply of dried sand, as the product is predominantly delivered in bulk directly to loader trucks. In cases where packaging is required, it is provided by the client and is therefore outside the control and responsibility of the manufacturer. In all cases, the mass of packaging remains below the cut-off threshold of 1% of the total product mass, in accordance with the applied cut-off rules.

### VALIDATION OF DATA

Data collection for production, transport, and packaging was conducted using time and site-specific information, as defined in the general information section on page 1 and 2. Upstream process calculations rely on generic data as defined in the Bibliography section. Manufacturer-provided specific and generic data were used for the product's manufacturing stage. The analysis was performed in One Click LCA EPD Generator, with the 'Cut-Off, EN 15804+A2' allocation method, and characterization factors according to EN 15804:2012+A2:2019/AC:2021 and JRC EF 3.1.

### ALLOCATION, ESTIMATES AND ASSUMPTIONS

Allocation is required if some material, energy, and waste data cannot be measured separately for the product under investigation. All allocations are done as per the reference standards and the applied PCR. In this study, allocation has been done in the following ways:

Data type	Allocation
Raw materials	No allocation
Packaging material	Not applicable
Ancillary materials	No allocation
Manufacturing energy and waste	Allocated by production volume

### PRODUCT & MANUFACTURING SITES GROUPING

Type of grouping	Multiple factories and products
Grouping method	Based on a representative product
Variation in GWP-fossil for A1-A3, %	<10

# ENVIRONMENTAL IMPACT DATA

The estimated impact results are only relative statements which do not indicate the end points of the impact categories, exceeding threshold values, safety margins or risks.

## CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, EF 3.1

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP – total <sup>1)</sup>	kg CO <sub>2</sub> e	0,00E+00	6,65E-01	9,54E+00	1,02E+01	ND													
GWP – fossil	kg CO <sub>2</sub> e	0,00E+00	6,65E-01	9,53E+00	1,02E+01	ND													
GWP – biogenic	kg CO <sub>2</sub> e	0,00E+00	1,51E-04	1,06E-02	1,08E-02	ND													
GWP – LULUC	kg CO <sub>2</sub> e	0,00E+00	2,97E-04	1,75E-03	2,05E-03	ND													
Ozone depletion pot.	kg CFC-11e	0,00E+00	9,81E-09	1,14E-06	1,15E-06	ND													
Acidification potential	mol H <sup>+</sup> e	0,00E+00	2,27E-03	4,79E-02	5,02E-02	ND													
EP-freshwater <sup>2)</sup>	kg Pe	0,00E+00	5,17E-05	8,63E-04	9,15E-04	ND													
EP-marine	kg Ne	0,00E+00	7,45E-04	1,42E-02	1,50E-02	ND													
EP-terrestrial	mol Ne	0,00E+00	8,10E-03	1,52E-01	1,60E-01	ND													
POCP (“smog”) <sup>3)</sup>	kg NMVOCe	0,00E+00	3,34E-03	6,23E-02	6,56E-02	ND													
ADP-minerals & metals <sup>4)</sup>	kg Sbe	0,00E+00	1,85E-06	1,20E-05	1,38E-05	ND													
ADP-fossil resources	MJ	0,00E+00	9,65E+00	4,08E+02	4,17E+02	ND													
Water use <sup>5)</sup>	m <sup>3</sup> e depr.	0,00E+00	4,76E-02	3,21E+01	3,21E+01	ND													

1) GWP = Global Warming Potential; 2) EP = Eutrophication potential. Required characterisation method and data are in kg P-eq. Multiply by 3,07 to get PO4e; 3) POCP = Photochemical ozone formation; 4) ADP = Abiotic depletion potential; 5) 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 experience with the indicator.

### ADDITIONAL (OPTIONAL) ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, EF 3.1

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Particulate matter	Incidence	0,00E+00	6,66E-08	6,31E-07	6,97E-07	ND													
Ionizing radiation <sup>6)</sup>	kBq U235e	0,00E+00	8,40E-03	1,17E+00	1,18E+00	ND													
Ecotoxicity (freshwater)	CTUe	0,00E+00	1,36E+00	1,27E+02	1,28E+02	ND													
Human toxicity, cancer	CTUh	0,00E+00	1,10E-10	2,40E-09	2,51E-09	ND													
Human tox. non-cancer	CTUh	0,00E+00	6,25E-09	3,87E-08	4,49E-08	ND													
SQP <sup>7)</sup>	-	0,00E+00	9,71E+00	9,21E+00	1,89E+01	ND													

6) EN 15804+A2 disclaimer for Ionizing radiation, human health. 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; 7) SQP = Land use related impacts/soil quality.

### 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 <sup>8)</sup>	MJ	0,00E+00	1,32E-01	3,97E+00	4,11E+00	ND													
Renew. PER as material	MJ	0,00E+00	0,00E+00	7,31E-09	7,31E-09	ND													
Total use of renew. PER	MJ	0,00E+00	1,32E-01	3,97E+00	4,11E+00	ND													
Non-re. PER as energy	MJ	0,00E+00	9,65E+00	1,19E+02	1,29E+02	ND													
Non-re. PER as material	MJ	0,00E+00	0,00E+00	8,06E-08	8,06E-08	ND													
Total use of non-re. PER	MJ	0,00E+00	9,65E+00	1,19E+02	1,29E+02	ND													
Secondary materials	kg	0,00E+00	4,11E-03	6,78E-02	7,19E-02	ND													
Renew. secondary fuels	MJ	0,00E+00	5,22E-05	1,01E-04	1,53E-04	ND													
Non-ren. secondary fuels	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND													
Use of net fresh water	m <sup>3</sup>	0,00E+00	1,43E-03	4,08E-02	4,22E-02	ND													

8) 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	0,00E+00	1,63E-02	2,00E-01	2,16E-01	ND													
Non-hazardous waste	kg	0,00E+00	3,02E-01	3,63E+00	3,94E+00	ND													
Radioactive waste	kg	0,00E+00	2,06E-06	1,38E-04	1,40E-04	ND													

## 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	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND													
Materials for recycling	kg	0,00E+00	0,00E+00	8,00E-05	8,00E-05	ND													
Materials for energy rec	kg	0,00E+00	0,00E+00	1,12E-03	1,12E-03	ND													
Exported energy	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND													
Exported energy – Electricity	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND													
Exported energy – Heat	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND													

## ADDITIONAL INDICATOR – GWP-GHG

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-GHG <sup>9)</sup>	kg CO <sub>2</sub> e	0,00E+00	6,65E-01	9,53E+00	1,02E+01	ND													

9) This indicator includes all greenhouse gases excluding biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. In addition, the characterisation factors for the flows – CH<sub>4</sub> fossil, CH<sub>4</sub> biogenic and Dinitrogen monoxide – were updated. This indicator is identical to the GWP-total of EN 15804:2012+A2:2019 except that the characterisation factor for biogenic CO<sub>2</sub> is set to zero.

## SCENARIO DOCUMENTATION

### DATA SOURCES

#### Manufacturing energy scenario documentation

Scenario parameter	Value
Electricity data source and quality	Diesel, burned in building machine, World, Ecoinvent
Energy kg CO2e/MJ	0,10
Electricity data source and quality	Electricity, Estonia, residual mix, 2024, Estonia, One Click LCA,
Energy kg CO2e/kWh	0,60
Electricity data source and quality	Market for petrol, unleaded, burned in machinery, Ecoinvent
Energy kg CO2e/MJ	0,0918
District heating data source and quality	Market group for natural gas, high pressure
Heating kg CO2e/m <sup>3</sup>	0,54

### LCA SOFTWARE AND BIBLIOGRAPHY

This EPD has been created using One Click LCA EPD Generator for EPD Hub V3 and EPD System Verification v3.2.3. The LCA and EPD have been prepared according to the reference standards and ISO 14040/14044. The EPD Generator uses Ecoinvent v3.11 and One Click LCA databases as sources of environmental data. Allocation used in Ecoinvent 3.11 environmental data sources follow the methodology ‘allocation, Cut-off, EN 15804+A2’.

## THIRD-PARTY VERIFICATION STATEMENT

EPD Hub declares that this EPD is verified in accordance with ISO 14025 by an independent, third-party verifier. The project report on the Life Cycle Assessment and the report(s) on features of environmental relevance are filed at EPD Hub. EPD Hub PCR and ECO Platform verification checklist are used.

EPD Hub is not able to identify any unjustified deviations from the PCR and EN 15804+A2 in the Environmental Product Declaration and its project report.

EPD Hub maintains its independence as a third-party body; it was not involved in the execution of the LCA or in the development of the declaration and has no conflicts of interest regarding this verification.

The company-specific data and upstream and downstream data have been examined as regards plausibility and consistency. The publisher is responsible for ensuring the factual integrity and legal compliance of this declaration.

The software used in creation of this LCA and EPD is verified by EPD Hub to conform to the procedural and methodological requirements outlined in ISO 14025:2010, ISO 14040/14044, EN 15804+A2, and EPD Hub Core Product Category Rules and General Program Instructions.

### Verified tools

Tool verifier: Magaly Gonzalez Vazquez

Tool verification validity: 27 March 2025 - 26 March 2028

Yazan Badour, as authorized verifier acting for EPD HUB Limited  
05.03.2026

