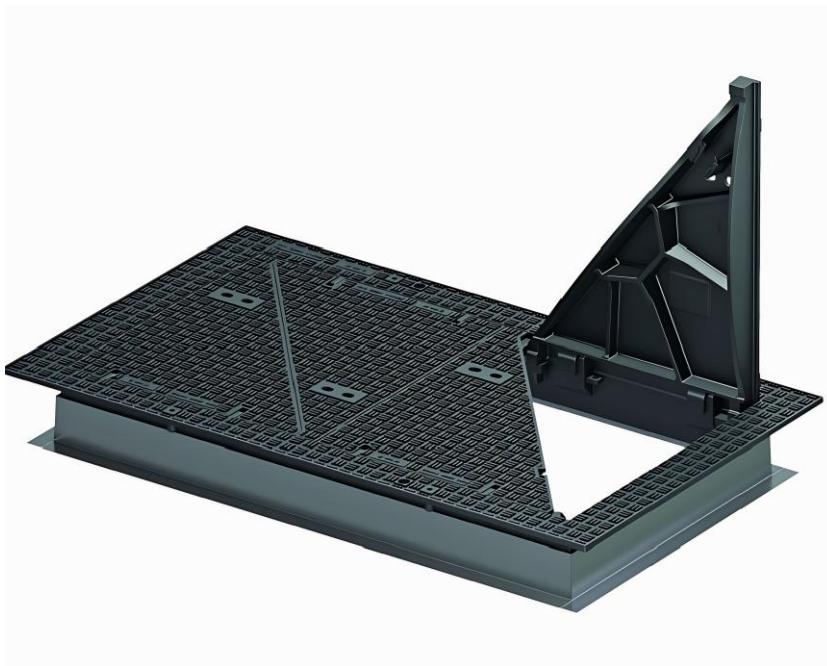


ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

Cable shaft cover - Trigona 1400x700 System Bituplan: self-leveling frame

ACO Passavant Detego GmbH



EPD HUB, HUB-4142

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Valid until 13.10.2030

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.

GENERAL INFORMATION

MANUFACTURER

Manufacturer	ACO Passavant Detego GmbH
Address	Scheidertalstraße 3, 65326 Aarbergen, Germany
Contact details	info@aco.com
Website	www.aco.com

EPD STANDARDS, SCOPE AND VERIFICATION

Program operator	EPD Hub, hub@epdhub.com
Reference standard	EN 15804:2012+A2:2019/AC:2021 and ISO 14025
PCR	EPD Hub Core PCR Version 1.2, 24 Mar 2025
Sector	Construction product
Category of EPD	Third party verified EPD
Parent EPD number	-
Scope of the EPD	Cradle to gate with options, A4-A5, and modules C1-C4, D
EPD author	Pratikkumar Parmar ACO Passavant Detego GmbH
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal verification ☒ External verification
EPD verifier	Sarah Curpen, as an authorised 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	Cable shaft cover - Trigona 1400x700 System Bituplan: self-leveling frame
Additional labels	-
Product reference	1205267,1205268,1205269,1205270
Place(s) of raw material origin	Europe
Place of production	Scheidertalstraße 3, 65326 Aarbergen, Germany
Place(s) of installation and use	Europe
Period for data	01-2024 to 12-2024
Averaging in EPD	Multiple products
Variation in GWP-fossil for A1-A3 (%)	<8%
GTIN (Global Trade Item Number)	-
NOBB (Norwegian Building Product Database)	-
A1-A3 Specific data (%)	2,92

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 kg of cast iron cable shaft cover - Trigona
Declared unit mass	1 kg
GWP-fossil, A1-A3 (kgCO ₂ e)	1,48E+00
GWP-total, A1-A3 (kgCO ₂ e)	1,39E+00
Secondary material, inputs (%)	74,4
Secondary material, outputs (%)	83,7
Total energy use, A1-A3 (kWh)	7,08
Net freshwater use, A1-A3 (m ³)	0,01

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

ACO is one of the world's leading water technology companies, particularly for rainwater and wastewater management. Our mission is "ACO. we care for water." Care in this sense means to be protective and attentive and is deeply anchored in the ACO WaterCycle. This cycle describes the collection, transportation, purification, storage and finally the reuse of this vital resource. Using innovative separation and filter technologies, ACO prevents the contamination of water from fats, fuels, heavy metals and microplastics. In all our products and systems, durability, reusability and a low carbon footprint are of great importance. Responsibility for people, the environment and the world of tomorrow is in ACO's DNA. For generations this belief has shaped the values at our locally rooted but globally active family corporation. Founded in Schleswig-Holstein in 1946, ACO is represented in over 50 countries around the world and is known for proximity to regional markets and business partnerships.

ACO Passavant Detego is the specialist within the ACO Group for manhole covers and technical covers, as well as for road and bridge drainage systems. With innovative solutions for industry and infrastructure, we offer a wide range of standard products as well as customized special solutions, particularly for emergency exits and heavy-duty areas. Our focus is on safe functionality and aesthetic integration into the environment.

In addition to product development, our full service also includes installation, maintenance, and repair. So you receive everything from a single source.

PRODUCT DESCRIPTION

Compliant with standards. Innovative. Economic.

The Trigona cable manhole cover with triangular covers is not only impressive - thanks to its ease of use and functionality. Optimal design, innovative technology, and efficient material selection ensure that the individually removable covers, which are held in place by three points and do not rattle, can be easily opened and closed by one person. The product contained in Trigona manhole covers and frame made from ductile and gray cast iron, included with adapter frame made from steel based on the production volume.

The characteristics of the products are:

- Rattle-free three-point support of the individual lids
- Anti-slip surface structure
- Low individual lid weight – can be operated by one person
- Self-cleaning hinge, opening angle approx. 100°
- Lid self-locking and securely closed
- With screwless locking or cam lock
- With metallic adapter frame for easy installation
- According to DIN EN 124-1, DIN EN 124-2, RAL-GZ 692 and the type D400
- Cast iron frame, pull-up
- Lid with rectangular recess for individual labeling
- Opening direction reversible 180°

Further information can be found at:
www.aco.com

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	99	EU
Minerals	-	-
Fossil materials	1	EU
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	0,02552

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 kg of cast iron cable shaft cover
Mass per declared unit	1 kg
Functional unit	-
Reference service life	-

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

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	X	X	ND	ND	ND	ND	ND	ND	ND	X	X	X	X	X			
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.

A market-based approach is used in modelling the electricity mix utilized in the factory.

Module A1 encompasses all relevant processes required for the provision of raw materials and semi-finished product parts, including packaging materials and auxiliary substances. The prefabricated product parts

are sourced from production facilities located in Europe. The production loss is also considered in the report. The study also considers the losses during electricity transmission.

Module A2 accounts for the transportation of raw materials and semi-finished products from the suppliers in Europe to the final manufacturing site, ACO Passavant Detego GmbH at Aarbergen, Germany. The logistics chain includes mainly road transport via trucks.

Module A3 covers the manufacturing processes at the production site in Aarbergen, Germany. The facility operates using 100% renewable electricity (Green Energy). A market-based approach is used in modelling the electricity utilized in the factory. The prefabricated metal components undergo drilling and milling operations, followed by a dip-coating and spray coating process for corrosion protection. The production of packaging materials,

specifically wooden pallets as well as wooden block supports, plastic straps, are also included in this module. Additionally, breakage and technical production waste are considered in environmental assessment.

The use of green energy in manufacturing is demonstrated through contractual instruments (GOs, RECs, etc.), and its use is ensured throughout the validity period of this EPD.

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.

Module A4 covers the transportation of the declared product from the manufacturing facility to the point of installation. Based on the yearly product delivery data an average transport distance of 202 km is assumed, with lorry transport as the primary mode. Distribution occurs predominantly within Germany. The product is robust and well-packaged, resulting in no material losses during transport. A vehicle capacity utilization volume factor is assumed to be 1 which means full load. Although actual load factors may vary, this variability is considered negligible due to the relatively minor contribution of transport emissions to the overall environmental impact. To ensure a conservative approach, empty return trips are included in the assessment.

Module A5 addresses the environmental impacts associated with the installation of the product on-site. Installation is typically performed manually, without the need for heavy machinery or additional material inputs.

Energy consumption during installation is accounted for, while no material flows are required for the installation process itself. Installation waste including the generation of packaging waste, such as wooden pallets and user manual papers and therefore, release of Biogenic CO₂ from the incineration of wood-based packaging materials had been declared. A proportionate share of the wooden pallet is assumed to be incinerated post-installation, with the resulting environmental benefits (e.g., energy recovery) reported in Module D.

PRODUCT USE AND MAINTENANCE (B1-B7)

The use phase is not relevant for the life cycle emissions of this product and is, therefore, not accounted into the assessment.

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

PRODUCT END OF LIFE (C1-C4, D)

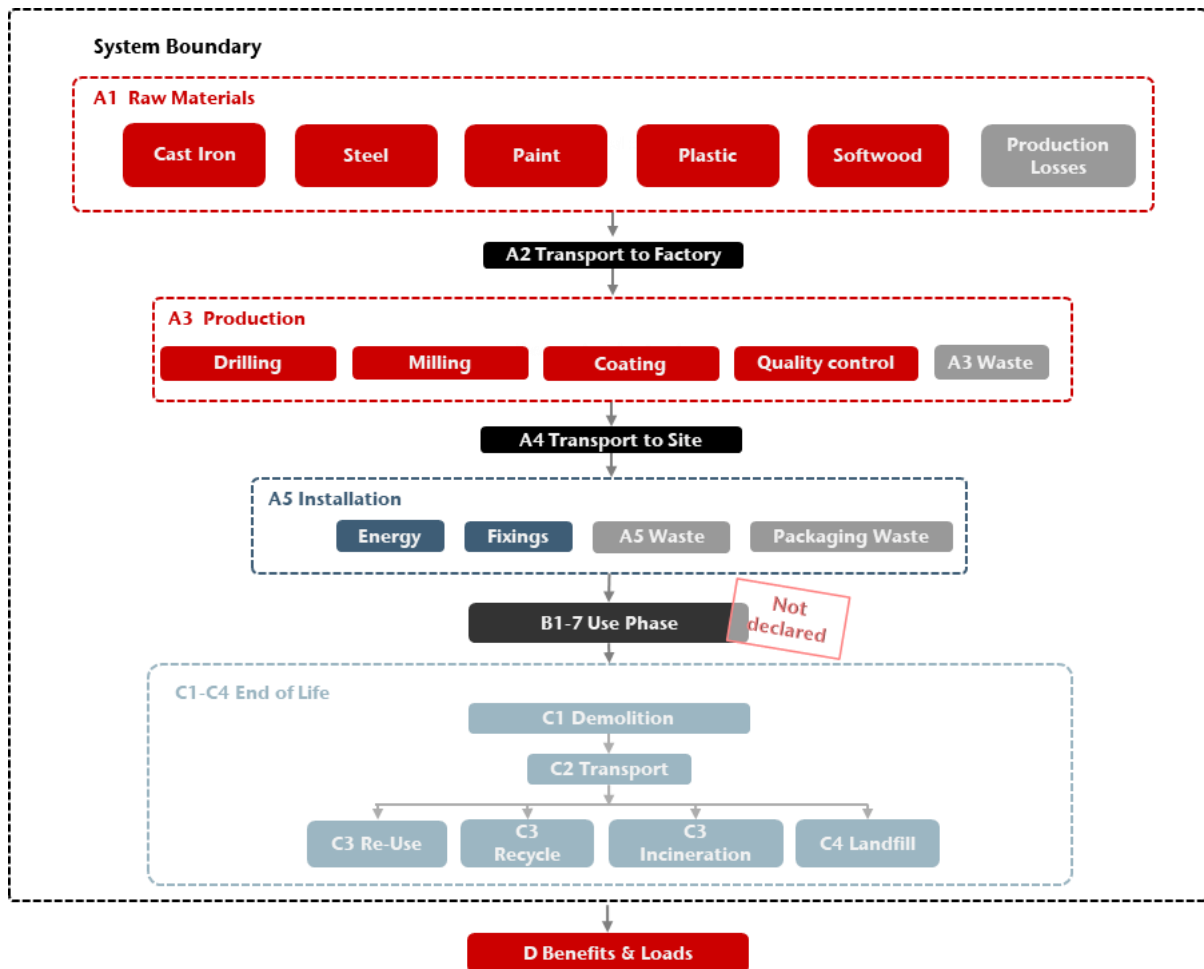
Module C1 covers the dismantling of the product. As with installation, the product is considered to be dismantled by a power tool and energy use is estimated to be the same as in installation. Module C2 represents the transportation to waste treatment. It is assumed that the steel waste is collected separately and transported to the waste treatment facility. Transportation distance to waste treatment plant is assumed between the range 50 km and 250 km and the transportation method is assumed to be lorry 16-32 metric ton capacity. These distances reflect typical logistics within Germany and are consistent with conservative modeling practices in life cycle assessments. Module C3 maps the waste treatment for reuse, recovery and/or recycling. The assumption has been made that cast iron can be 85% recycled according to world steel data.

Material losses at the end of life are land filled included in module C4.

Module D includes reuse, recovery and/or resource inputs for sorting and treating steel for recycling. Due to the material recovery potential of the product and material and energy recovery potential of its packaging, recycled raw materials lead to avoided virgin material production and the energy recovered from incineration replaces

electricity and heat from primary sources. Benefits and loads from incineration and recycling are included in Module D. These are stated as net flows and benefits. The ecological benefits resulting from the thermal utilization of the wooden pallet and plastic packaging are affected (see, Reuse, recovery and recycling potential (D), relevant scenario information).

SYSTEM DIAGRAM



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.

The production of capital equipment, construction activities, and infrastructure, maintenance and operation of capital equipment, personnel-related activities, energy and water use related to company management and sales activities are excluded.

This LCA study includes the provision of all materials, transportation, energy and emission flows, and end of life processing of product. All industrial processes from raw material acquisition and pre-processing, production, product distribution and installation and end-of-life management are included. Also, some ancillary materials are considered based on mass allocation. These include materials which are used in the product manufacturing only in very small amounts and have a negligible impact on the emissions of the product. The production of capital equipment, construction activities, and infrastructure, maintenance and operation of capital equipment, personnel-related activities.

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	Allocated by mass or volume
Ancillary materials	Allocated by mass or volume
Manufacturing energy and waste	Allocated by mass or volume

- Proxy data is used for certain materials due to their unavailability in the database.
- Module A1: 5% production loss has been assumed for manufacturing waste in Module A3. This figure is intentionally

conservative and higher than the actual production losses recorded at the ACO site, to maintain consistency and representativeness in line with EN 15804 requirements. The declared product weight is based on the average of recorded production data, incorporating allowances for typical production losses. Variations in the final product weight may occur due to fluctuations in the semi-finished cast iron component, which are inherent to the sand-casting process.

- Module A2, A4 & C2: Vehicle capacity utilization volume factor is assumed to be 1 which means full load. It may vary but as the role of transportation emission in total results is small, the variety in load is assumed to be negligible. To be conservative, empty returns are included in this study as implemented through an average load factor in the Ecoinvent transport datapoints.
- Module A4: Transportation does not cause losses as products are packaged properly. Also, volume capacity utilization factor is assumed to be 1. Additionally, transportation distances are assumed to be based on an average of annual downstream logistics data, and a lorry is the assumed vehicle type used.
- Module A5: Packaging waste is declared as installation waste.
- Module C2: Transportation distances to waste handling facilities, where specific data was unavailable, are estimated as 250km for recycling, 150km for incineration and 50km to landfill, and the transportation method is assumed as lorry.
- Module C3, C4, D: The product undergoes separate collection, and a certain

percentage of each material is assumed to be recycled, incinerated and landfilled. The recycled end-of-life materials are assumed to serve as secondary raw materials in manufacturing while the materials incinerated displace electricity and heat production.

PRODUCT & MANUFACTURING SITES GROUPING

Type of grouping	Multiple products
Grouping method	Based on a representative product
Variation in GWP-fossil for A1-A3, %	<8%

The declared unit 1kg of the “Cable shaft cover Trigona 1400x700 System Bituplan: self-leveling frame (Product number :1205270) is the representative product consisting of cast iron frame with 0.36 kg of weight, the cast iron manhole covers with 0.60 kg and the steel adopter frame with 0.03 kg of weight of weight. The paint used for coating has the amount of 0.01 kg of weight for corrosion resistance (see ANNEX).

The declared unit 1kg of the “Cable shaft cover Trigona 700x700 System Bituplan: self-leveling frame (Product number :1205268) is the variant product consisting of cast iron frame with 0.42 kg of weight, the cast iron manhole covers with 0.53 kg and the steel adopter frame with 0.04 kg of weight of weight. The paint used for coating has the amount of 0.01 kg of weight for corrosion resistance (see ANNEX 1).

LCA SOFTWARE AND BIBLIOGRAPHY

This EPD has been created using One Click LCA EPD Generator. The LCA and EPD have been prepared according to the reference standards and ISO 14040/14044. The EPD Generator uses Ecoinvent v3.10.1 and One Click LCA databases as sources of environmental data. Allocation used in Ecoinvent 3.10.1 environmental data sources follow the methodology 'allocation, Cut-off, EN 15804+A2'.

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 ¹⁾	kg CO ₂ e	1,42E+00	2,39E-02	-5,00E-02	1,39E+00	2,21E-02	1,21E-01	ND	ND	ND	ND	ND	ND	ND	9,38E-04	4,26E-02	2,07E-02	3,58E-02	-1,42E+00
GWP – fossil	kg CO ₂ e	1,41E+00	2,39E-02	4,33E-02	1,48E+00	2,21E-02	3,67E-03	ND	ND	ND	ND	ND	ND	ND	9,33E-04	4,26E-02	2,08E-02	3,58E-02	-1,42E+00
GWP – biogenic	kg CO ₂ e	3,92E-03	4,47E-06	-9,33E-02	-8,94E-02	4,82E-06	1,17E-01	ND	ND	ND	ND	ND	ND	ND	2,09E-06	9,29E-06	-4,03E-05	-1,76E-06	1,97E-03
GWP – LULUC	kg CO ₂ e	1,37E-03	9,76E-06	6,15E-05	1,44E-03	8,59E-06	5,96E-06	ND	ND	ND	ND	ND	ND	ND	2,86E-06	1,88E-05	2,34E-05	2,10E-06	-1,72E-04
Ozone depletion pot.	kg CFC ₋₁₁ e	1,63E-08	4,04E-10	1,28E-09	1,80E-08	4,61E-10	4,93E-11	ND	ND	ND	ND	ND	ND	ND	1,72E-11	5,95E-10	2,55E-10	2,06E-10	-4,73E-09
Acidification potential	mol H ⁺ e	6,36E-03	7,87E-05	1,49E-04	6,59E-03	5,21E-05	1,60E-05	ND	ND	ND	ND	ND	ND	ND	5,48E-06	1,42E-04	2,26E-04	3,24E-05	-5,63E-03
EP-freshwater ²⁾	kg Pe	9,45E-04	1,75E-06	6,17E-06	9,53E-04	1,54E-06	1,41E-06	ND	ND	ND	ND	ND	ND	ND	8,68E-07	3,31E-06	1,22E-05	4,39E-07	-6,09E-04
EP-marine	kg Ne	1,44E-03	2,61E-05	4,22E-05	1,51E-03	1,37E-05	1,26E-05	ND	ND	ND	ND	ND	ND	ND	8,60E-07	4,60E-05	5,11E-05	9,85E-06	-1,25E-03
EP-terrestrial	mol Ne	1,47E-02	2,84E-04	4,33E-04	1,54E-02	1,48E-04	5,15E-05	ND	ND	ND	ND	ND	ND	ND	7,71E-06	5,00E-04	5,69E-04	7,62E-05	-1,37E-02
POCP (“smog”) ³⁾	kg NMVOCe	5,42E-03	1,19E-04	1,92E-04	5,73E-03	9,06E-05	1,69E-05	ND	ND	ND	ND	ND	ND	ND	2,54E-06	1,98E-04	1,68E-04	3,86E-05	-4,66E-03
ADP-minerals & metals ⁴⁾	kg Sbe	8,67E-06	7,16E-08	1,50E-07	8,89E-06	6,32E-08	1,80E-08	ND	ND	ND	ND	ND	ND	ND	1,26E-08	1,40E-07	1,34E-06	1,45E-08	-1,37E-05
ADP-fossil resources	MJ	2,52E+01	3,42E-01	6,81E-01	2,62E+01	3,31E-01	4,87E-02	ND	ND	ND	ND	ND	ND	ND	2,17E-02	5,97E-01	2,54E-01	1,81E-01	-1,29E+01
Water use ⁵⁾	m ³ e depr.	3,83E-01	1,69E-03	6,77E-02	4,52E-01	1,70E-03	1,37E-03	ND	ND	ND	ND	ND	ND	ND	5,92E-04	2,77E-03	4,65E-03	6,63E-04	-2,38E-01

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	1,09E-07	2,18E-09	2,91E-09	1,14E-07	2,15E-09	2,13E-10	ND	ND	ND	ND	ND	ND	ND	1,96E-11	3,38E-09	3,08E-09	4,41E-10	-9,39E-08
Ionizing radiation ⁶⁾	kBq U235e	2,14E-01	3,55E-04	1,34E-03	2,15E-01	4,00E-04	6,50E-04	ND	ND	ND	ND	ND	ND	ND	6,00E-04	4,83E-04	2,15E-03	7,61E-05	5,21E-02
Ecotoxicity (freshwater)	CTUe	6,40E+00	4,70E-02	1,53E-01	6,60E+00	3,91E-02	1,29E-02	ND	ND	ND	ND	ND	ND	ND	3,31E-03	9,44E-02	1,50E-01	4,67E-02	-3,47E+00
Human toxicity, cancer	CTUh	2,93E-09	4,00E-12	1,05E-10	3,04E-09	3,68E-12	1,30E-12	ND	ND	ND	ND	ND	ND	ND	3,15E-13	7,23E-12	1,71E-11	6,61E-11	-2,28E-10
Human tox. non-cancer	CTUh	1,30E-07	2,19E-10	2,80E-10	1,30E-07	2,14E-10	6,96E-11	ND	ND	ND	ND	ND	ND	ND	1,63E-11	3,74E-10	1,15E-09	1,10E-10	-1,12E-08
SQP ⁷⁾	-	5,26E+00	2,87E-01	9,26E+00	1,48E+01	3,34E-01	3,13E-02	ND	ND	ND	ND	ND	ND	ND	4,83E-03	3,58E-01	4,94E-01	5,83E-02	-4,12E+00

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 ⁸⁾	MJ	2,59E+00	5,20E-03	8,56E-01	3,45E+00	5,40E-03	-8,34E-01	ND	ND	ND	ND	ND	ND	ND	5,96E-03	8,19E-03	4,73E-02	1,22E-03	-8,42E-01
Renew. PER as material	MJ	0,00E+00	0,00E+00	8,31E-01	8,31E-01	0,00E+00	-8,31E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,44E-02
Total use of renew. PER	MJ	2,59E+00	5,20E-03	1,69E+00	4,28E+00	5,40E-03	-1,66E+00	ND	ND	ND	ND	ND	ND	ND	5,96E-03	8,19E-03	4,73E-02	1,22E-03	-8,27E-01
Non-re. PER as energy	MJ	2,12E+01	3,42E-01	5,29E-01	2,20E+01	3,31E-01	2,16E-02	ND	ND	ND	ND	ND	ND	ND	2,17E-02	5,97E-01	2,26E-01	-2,00E-02	-1,29E+01
Non-re. PER as material	MJ	0,00E+00	0,00E+00	6,35E-02	6,35E-02	0,00E+00	-6,35E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,70E-02
Total use of non-re. PER	MJ	2,12E+01	3,42E-01	5,92E-01	2,21E+01	3,31E-01	-4,19E-02	ND	ND	ND	ND	ND	ND	ND	2,17E-02	5,97E-01	2,26E-01	-2,00E-02	-1,29E+01
Secondary materials	kg	7,44E-01	1,50E-04	2,02E-03	7,46E-01	1,43E-04	2,29E-05	ND	ND	ND	ND	ND	ND	ND	3,59E-06	2,68E-04	3,11E-04	6,85E-05	7,82E-01
Renew. secondary fuels	MJ	2,04E-04	1,90E-06	1,66E-02	1,68E-02	1,81E-06	2,23E-07	ND	ND	ND	ND	ND	ND	ND	2,87E-08	3,41E-06	1,44E-05	2,17E-07	-1,17E-04
Non-ren. secondary fuels	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m ³	1,13E-02	4,87E-05	1,57E-03	1,29E-02	4,89E-05	-5,47E-05	ND	ND	ND	ND	ND	ND	ND	1,88E-05	7,91E-05	1,36E-04	3,99E-05	-3,16E-03

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	3,87E-01	5,44E-04	1,89E-03	3,90E-01	4,80E-04	2,31E-04	ND	ND	ND	ND	ND	ND	ND	5,49E-05	1,04E-03	1,68E-03	4,27E-04	-4,69E-01
Non-hazardous waste	kg	5,24E+00	1,06E-02	1,68E-01	5,42E+00	9,60E-03	1,34E-01	ND	ND	ND	ND	ND	ND	ND	4,25E-03	1,95E-02	6,07E-02	4,62E-03	-3,66E+00
Radioactive waste	kg	8,07E-05	8,76E-08	3,81E-07	8,12E-05	9,88E-08	1,67E-07	ND	ND	ND	ND	ND	ND	ND	1,54E-07	1,18E-07	5,52E-07	1,86E-08	1,35E-05

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	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	0,00E+00	0,00E+00	1,60E-01	1,60E-01	0,00E+00	3,01E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	8,37E-01	0,00E+00	0,00E+00
Materials for energy rec	kg	0,00E+00	0,00E+00	5,00E-04	5,00E-04	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	9,40E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	8,60E-03	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	3,97E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	3,60E-03	0,00E+00	0,00E+00
Exported energy – Heat	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	5,43E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	5,00E-03	0,00E+00	0,00E+00

SCENARIO DOCUMENTATION

Manufacturing energy scenario documentation

Scenario parameter	Value
Electricity data source and quality	Electricity production, hydro, reservoir, alpine region (Reference product: electricity, high voltage)
Electricity CO2e / kWh	0,006
District heating data source and quality	Heat production, natural gas, at boiler modulating >100kW (Reference product: heat, district or industrial, natural gas)
District heating CO2e / kWh	0,0766

Transport scenario documentation A4

Scenario parameter	Value
Fuel and vehicle type. Eg, electric truck, diesel powered truck	Diesel powered trucks are primary means of the transportation.
Average transport distance, km	202
Capacity utilization (including empty return) %	100
Bulk density of transported products	6900 - 7800
Volume capacity utilization factor	1

Installation scenario documentation A5

Scenario information	Value
Ancillary materials for installation (specified by material) / kg or other units as appropriate	0
Water use / m ³	0
Other resource use / kg	0
Quantitative description of energy type (regional mix) and consumption during the installation process / kWh or MJ	0,00285
Waste materials on the building site before waste processing, generated by the product's installation (specified by type) / kg	0,0573
Output materials (specified by type) as result of waste processing at the building site e.g. collection for recycling, for energy recovery, disposal (specified by route) / kg	0,0573
Direct emissions to ambient air, soil and water / kg	0

End of life scenario documentation

Scenario information	Value
Collection process – kg collected separately	-
Collection process – kg collected with mixed waste	-
Recovery process – kg for re-use	-
Recovery process – kg for recycling	0,837
Recovery process – kg for energy recovery	0,01
Disposal (total) – kg for final deposition	0,154
Scenario assumptions e.g. transportation	Transportation of the product from the demolition site to the appropriate waste treatment facility is assumed to occur within a radius of 250 km to recycling centers, 150 km to energy recovery facilities, and 50 km to landfill sites, respectively.

ANNEX 1 ADDITIONAL ENVIRONMENTAL INFORMATION

Climate Impact Variation: GWP Fossil A1-A3 in Cable shaft cover - Trigona System Bituplan: self-leveling frame series (MODULES A1-A3).

Product Portfolio Included in Scope

Product Number	Product Designation	Class	Size (mm ²)	Weight (kg)	GWP Fossil A1-A3 (kg CO ₂ e/kg)
1205267	Cable shaft cover - Trigona 700x700 System Bituplan: self-leveling frame	D400	700x700	150	1,59E+00
1205268	Cable shaft cover - Trigona 700x700 System Bituplan: self-leveling frame	D400	700x700	150	1,59E+00
1205269	Cable shaft cover - Trigona 1400x700 System Bituplan: self-leveling frame	D400	1400x700	263	1,48E+00
1205270	Cable shaft cover - Trigona 1400x700 System Bituplan: self-leveling frame	D400	1400x700	263	1,48E+00

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 15802+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

Sarah Curpen, as an authorised verifier acting for EPD Hub Limited
13.10.2025

