



ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

UTA - Shut-off Damper
Halton Marine Oy



EPD HUB, HUB-7696

Published on 01.10.2026, last updated on 01.10.2026, valid until 30.09.2031

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.



Created with One Click LCA

Halton

GENERAL INFORMATION

MANUFACTURER

Manufacturer	Halton Marine Oy
Address	Pulttikatu 2, 15700 Lahti, Finland
Contact details	haltonmarine@halton.com
Website	www.halton.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	Manufactured product
Category of EPD	Third party verified EPD
Parent EPD number	
Scope of the EPD	Cradle to gate with options, A4-A5, B2, B4, B6 and modules C1-C4, D
EPD author	Sofia Malin
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal verification ☒ External verification
EPD verifier	Elena Antuña-Bernardo as an authorized verifier for EPD Hub

This EPD is intended for business-to-business 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	UTA - Shut-off Damper
Additional labels	
Product reference	ITM007352
Place(s) of raw material origin	EU
Place of production	Lahti, Finland
Place(s) of installation and use	Global
Period for data	Calendar year, 2025
Averaging in EPD	No grouping
Variation in GWP-fossil for A1-A3 (%)	
GTIN (Global Trade Item Number)	-
NOBB (Norwegian Building Product Database)	-
A1-A3 Specific data (%)	90,5

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 kg of fire damper with electric actuator
Declared unit mass	1 kg
Mass of packaging	0,21 kg
GWP-fossil, A1-A3 (kgCO ₂ e)	3,63
GWP-total, A1-A3 (kgCO ₂ e)	3,32
Secondary material, inputs (%)	10,9
Total energy use, A1-A3 (kWh)	42,3
Net freshwater use, A1-A3 (m ³)	0,05

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

Halton Group is a family-owned global technology leader in indoor air solutions for demanding spaces. Our mission is to enable people's wellbeing in these environments.

We design, manufacture, and deliver indoor environment solutions for:

- commercial and public buildings
- healthcare institutions and laboratories
- professional kitchens and restaurants
- energy production and heavy industry environments
- marine vessels

We work in close cooperation with our customers and partners to meet their special needs and to exceed expectations. We enable safe, comfortable, and productive indoor environments that are energy-efficient and comply with sustainable principles.

PRODUCT DESCRIPTION

Halton UTA dampers are used to shut-off and balance airflow rates in high pressure ductworks. Dampers meet international standards for rectangular and round ducts. In the open position, the blades face the direction of flow and do not cause a significant pressure loss. The UTA is used as a shut-off, gas and balancing damper in applications where tightness and reliability are important.

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

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	97,6	EU
Minerals	0	
Fossil materials	2,4	EU
Bio-based materials	0	

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	0,47

1 kg of biogenic carbon is equivalent to 44/12 kg of CO₂

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 kg of fire damper with electric actuator
Mass per declared unit	1 kg
Functional unit	1 kg of fire damper continuously energized and maintained in standby mode throughout its 25-year reference service life.
Reference service life	25 years

SUBSTANCES, REACH - VERY HIGH CONCERN

Substances of very high concern	EC	CAS
The product contains lead more than 1000 ppm (lead in alloy in electric actuator).		7439-92-1

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	x	ND	x	ND	x	ND	x	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	Recycling

Not declared = ND

A5 is not fully declared. Waste processing (from collection through to end-of-waste or final disposal) and full energy and biogenic carbon balancing are accounted for. Storage, product wastage, and installation into the building are excluded.

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 factory.

The reference product is a fire damper primarily manufactured from steel and equipped with several electrical components. The product is available in different sizes. Manufacturing takes place at the Halton production facility in Lahti, Finland. The production stage includes the supply and transportation of steel materials and purchased components, laser cutting of steel sheets, bending and forming operations, pre-assembly of supplier components, final assembly and packaging.

Supplier-specific transportation distances were used whenever available. Where primary transportation data was not available, representative European road transport distances were applied based on supplier locations and typical logistics routes.

Production losses were considered and consist mainly of steel off-cuts generated during laser cutting and forming operations. Manufacturing waste consists predominantly of steel scrap, which is collected separately and sent for recycling. It was assumed that 95% of the steel scrap generated during manufacturing is recycled and 5% is disposed of as landfill waste according to Finnish waste treatment practices. Manufacturing waste is transported by road to a nearby treatment facility, with an assumed transport distance of 50 km.

Packaging materials include cardboard, wooden pallets and plastic film. Auxiliary materials used during manufacturing include welding gases. Other auxiliary materials, such as lubricants and cleaning agents, were excluded from the assessment due to their negligible contribution to the overall environmental impacts.

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. A5 is not in scope. Only packaging waste is accounted for in this module.

Energy use of the installation process was assumed to be insignificant since there is no need of heavy machineries that would use electricity, fuels or heat. Waste materials generated by product installation are packaging materials of the product. To define the distribution of the product to the customer, the weighted average of the five largest customers is considered. It is assumed that the average transportation distance from the production facility to the construction site is 2190 km. The product is transported via truck. The customer is responsible for waste management. A transportation distance of 75 km by road has been assumed for waste treatment. This reflects a typical regional average distance to the nearest waste treatment or recycling facility, in line with commonly used assumptions in European LCA studies.

PRODUCT USE AND MAINTENANCE (B1-B7)

During the use stage (B6), the product consumes electricity. The fire damper actuator is assumed to remain continuously energized and in standby mode throughout the entire 25-year reference service life. Electricity consumption is based on a constant power demand of 2 W.

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

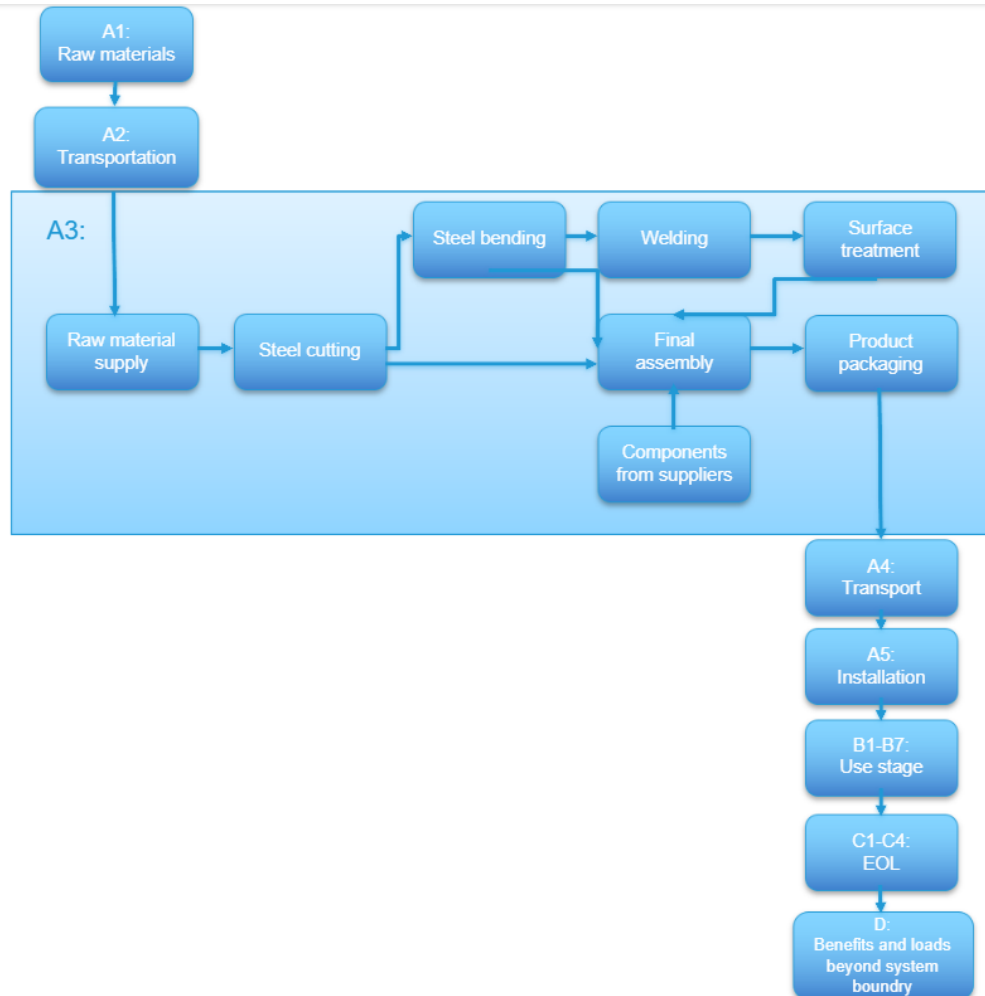
PRODUCT END OF LIFE (C1-C4, D)

According to waste handling companies, the UTA gastight shut-off damper is collected separately for recycling at the end-of-life stage. Steel and other recyclable materials are directed to recycling processes, while the remaining waste fractions are treated through energy recovery or landfill disposal according to local waste management practices and the scenarios applied in the LCA model. No significant environmental impacts were identified from demolition activities; therefore, the impacts of module C1 are considered to be zero.

End-of-life treatment is assumed to take place in Europe, reflecting typical waste management practices for the intended market. Waste treatment scenarios, including recycling, energy recovery and landfill disposal, are based on currently available waste treatment technologies and practices. The selected end-of-life scenarios are considered representative of current waste management practices and one of the most likely treatment routes for the product and its main material fractions at the end of their service life. A transportation distance of 75 km by road has been assumed for transport to waste treatment facilities.

Module D includes the benefits and loads associated with material recycling through the substitution of virgin materials, as well as the benefits from energy recovery of combustible waste fractions.

LIFE CYCLE FLOW 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.

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	Physical Properties
Ancillary materials	Physical Properties
Manufacturing energy and waste	Physical Properties

PRODUCT & MANUFACTURING SITES GROUPING

Type of grouping	No grouping
Grouping method	Not applicable
Variation in GWP-fossil for A1-A3, %	

This EPD is product and factory specific.

LCA SOFTWARE AND BIBLIOGRAPHY

This EPD has been created using One Click LCA EPD Generator for EPD Hub V3 and EPD Process Certification v3.2.5. The LCA and EPD have been prepared according to the reference standards and ISO 14040/14044. The EPD Generator uses Ecoinvent v3.10.1/3.11/3.12 and One Click LCA databases as sources of environmental data. Allocation used in Ecoinvent 3.10.1/3.11/3.12 environmental data sources follow the methodology 'allocation, Cut-off, EN 15804+A2'.

Additional references were used in the modelling. These include steel supplier EPDs for material-specific environmental and recycled content data,

actuator manufacturer datasheets for electricity consumption assumptions, company-specific production data, and information from waste handling companies regarding end-of-life treatment practices.

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	3,41E+00	3,30E-02	-1,32E-01	3,32E+00	2,94E-01	3,34E-01	ND	0,00E+00	ND	0,00E+00	ND	2,78E+00	ND	0,00E+00	1,44E-02	2,45E-02	6,31E-04	-1,46E+00
GWP – fossil	kg CO ₂ e	3,42E+00	3,30E-02	1,74E-01	3,63E+00	2,94E-01	2,69E-02	ND	0,00E+00	ND	0,00E+00	ND	2,77E+00	ND	0,00E+00	1,43E-02	2,45E-02	6,30E-04	-1,46E+00
GWP – biogenic	kg CO ₂ e	-6,85E-03	6,54E-06	-3,07E-01	-3,13E-01	6,77E-05	3,07E-01	ND	0,00E+00	ND	0,00E+00	ND	2,50E-03	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
GWP – LULUC	kg CO ₂ e	1,33E-03	1,26E-05	5,20E-04	1,86E-03	1,31E-04	1,07E-06	ND	0,00E+00	ND	0,00E+00	ND	9,67E-04	ND	0,00E+00	6,09E-05	2,88E-05	3,60E-07	-5,15E-04
Ozone depletion pot.	kg CFC-11e	1,59E-08	6,70E-10	3,35E-09	1,99E-08	4,28E-09	4,46E-11	ND	0,00E+00	ND	0,00E+00	ND	1,21E-07	ND	0,00E+00	2,32E-10	2,71E-10	1,83E-11	-5,53E-09
Acidification potential	mol H ⁺ e	9,84E-03	1,09E-04	1,03E-03	1,10E-02	1,02E-03	3,78E-05	ND	0,00E+00	ND	0,00E+00	ND	1,46E-02	ND	0,00E+00	4,84E-05	2,55E-04	4,47E-06	-6,53E-03
EP-freshwater ²⁾	kg Pe	1,01E-04	2,23E-06	3,16E-04	4,20E-04	3,19E-05	1,47E-06	ND	0,00E+00	ND	0,00E+00	ND	4,31E-04	ND	0,00E+00	1,52E-06	1,39E-05	5,19E-08	-9,89E-04
EP-marine	kg Ne	2,50E-03	3,24E-05	6,09E-04	3,14E-03	3,38E-04	2,03E-05	ND	0,00E+00	ND	0,00E+00	ND	2,15E-03	ND	0,00E+00	1,63E-05	5,71E-05	1,70E-06	-1,33E-03
EP-terrestrial	mol Ne	2,70E-02	3,53E-04	2,88E-03	3,03E-02	3,66E-03	1,92E-04	ND	0,00E+00	ND	0,00E+00	ND	2,22E-02	ND	0,00E+00	1,71E-04	6,41E-04	1,86E-05	-1,45E-02
POCP (“smog”) ³⁾	kg NMVOCe	7,78E-03	1,64E-04	9,72E-04	8,91E-03	1,50E-03	4,81E-05	ND	0,00E+00	ND	0,00E+00	ND	6,23E-03	ND	0,00E+00	6,75E-05	1,88E-04	6,67E-06	-4,88E-03
ADP-minerals & metals ⁴⁾	kg Sbe	1,94E-05	9,49E-08	1,55E-06	2,10E-05	8,42E-07	8,38E-09	ND	0,00E+00	ND	0,00E+00	ND	6,00E-07	ND	0,00E+00	4,92E-08	1,37E-06	1,00E-09	-1,42E-05
ADP-fossil resources	MJ	3,60E+01	4,81E-01	1,11E+02	1,47E+02	4,20E+00	3,30E-02	ND	0,00E+00	ND	0,00E+00	ND	3,41E+01	ND	0,00E+00	1,98E-01	2,96E-01	1,55E-02	-1,43E+01
Water use ⁵⁾	m ³ e depr.	1,08E+00	2,43E-03	1,11E+00	2,19E+00	2,45E-02	8,27E-03	ND	0,00E+00	ND	0,00E+00	ND	6,94E+01	ND	0,00E+00	1,08E-03	5,05E-03	5,09E-05	-3,24E-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	2,31E-08	3,06E-09	4,10E-08	6,71E-08	2,88E-08	4,01E-10	ND	0,00E+00	ND	0,00E+00	ND	2,66E-08	ND	0,00E+00	1,13E-09	3,59E-09	1,02E-10	-1,09E-07
Ionizing radiation ⁶⁾	kBq 11235e	2,93E-02	5,81E-04	9,10E+00	9,13E+00	3,52E-03	3,86E-05	ND	0,00E+00	ND	0,00E+00	ND	7,10E-01	ND	0,00E+00	1,56E-04	1,18E-03	9,72E-06	-8,43E-03
Ecotoxicity (freshwater)	CTUe	4,78E+00	5,76E-02	1,85E+01	2,33E+01	8,71E-01	6,99E-02	ND	0,00E+00	ND	0,00E+00	ND	4,59E+00	ND	0,00E+00	4,86E-02	1,72E-01	1,39E-03	-7,45E+01
Human toxicity, cancer	CTUh	5,45E-10	5,53E-12	2,99E-10	8,50E-10	4,62E-11	7,76E-12	ND	0,00E+00	ND	0,00E+00	ND	1,29E-10	ND	0,00E+00	2,39E-12	1,86E-11	1,16E-13	-2,03E-09
Human tox. non-cancer	CTUh	4,74E-09	3,06E-10	3,50E-09	8,55E-09	2,61E-09	4,61E-10	ND	0,00E+00	ND	0,00E+00	ND	1,20E-08	ND	0,00E+00	1,23E-10	1,24E-09	2,67E-12	-9,96E-09
SQP ⁷⁾	-	2,11E+00	4,38E-01	3,72E+01	3,97E+01	4,19E+00	1,02E-02	ND	0,00E+00	ND	0,00E+00	ND	1,44E+00	ND	0,00E+00	1,27E-01	5,19E-01	3,05E-02	-5,36E+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	2,07E+00	7,86E-03	3,57E+00	5,65E+00	5,84E-02	-2,80E+00	ND	0,00E+00	ND	0,00E+00	ND	5,57E+00	ND	0,00E+00	2,92E-03	4,60E-02	1,49E-04	-1,52E+00
Renew. PER as material	MJ	0,00E+00	0,00E+00	2,65E+00	2,65E+00	0,00E+00	-2,65E+00	ND	0,00E+00	ND	0,00E+00	ND	1,16E-05	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of renew. PER	MJ	2,07E+00	7,86E-03	6,23E+00	8,30E+00	5,84E-02	-5,45E+00	ND	0,00E+00	ND	0,00E+00	ND	5,57E+00	ND	0,00E+00	2,92E-03	4,60E-02	1,49E-04	-1,52E+00
Non-re. PER as energy	MJ	3,61E+01	4,81E-01	1,10E+02	1,47E+02	4,20E+00	-2,75E-01	ND	0,00E+00	ND	0,00E+00	ND	3,88E+01	ND	0,00E+00	1,98E-01	2,96E-01	1,55E-02	-1,43E+01
Non-re. PER as material	MJ	2,67E-01	0,00E+00	5,74E-01	8,41E-01	0,00E+00	-5,74E-01	ND	0,00E+00	ND	0,00E+00	ND	1,28E-04	ND	0,00E+00	0,00E+00	-2,67E-01	0,00E+00	0,00E+00
Total use of non-re. PER	MJ	3,63E+01	4,81E-01	1,11E+02	1,48E+02	4,20E+00	-8,49E-01	ND	0,00E+00	ND	0,00E+00	ND	3,88E+01	ND	0,00E+00	1,98E-01	2,87E-02	1,55E-02	-1,43E+01
Secondary materials	kg	1,09E-01	2,11E-04	6,16E-03	1,15E-01	1,76E-03	6,89E-05	ND	0,00E+00	ND	0,00E+00	ND	9,55E-05	ND	0,00E+00	8,80E-05	3,23E-04	3,89E-06	7,28E-01
Renew. secondary fuels	MJ	1,75E-03	2,62E-06	4,00E-02	4,17E-02	2,29E-05	3,53E-07	ND	0,00E+00	ND	0,00E+00	ND	2,47E-08	ND	0,00E+00	1,14E-06	1,56E-05	8,05E-08	-1,17E-04
Non-ren. secondary fuels	MJ	4,00E-06	0,00E+00	0,00E+00	4,00E-06	0,00E+00	0,00E+00	ND	0,00E+00	ND	0,00E+00	ND	0,00E+00	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m ³	2,10E-02	6,92E-05	2,60E-02	4,71E-02	6,02E-04	6,64E-05	ND	0,00E+00	ND	0,00E+00	ND	3,35E-02	ND	0,00E+00	2,83E-05	1,18E-04	1,61E-05	-5,47E-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	1,16E-01	6,94E-04	5,63E-02	1,73E-01	2,69E-02	1,99E-03	ND	0,00E+00	ND	0,00E+00	ND	1,05E-04	ND	0,00E+00	1,38E-03	3,99E-02	1,71E-05	-4,09E-01
Non-hazardous waste	kg	8,92E-01	1,40E-02	6,16E-01	1,52E+00	5,31E-01	2,18E-01	ND	0,00E+00	ND	0,00E+00	ND	1,66E-01	ND	0,00E+00	1,83E-02	7,60E-02	3,91E-04	-5,36E+00
Radioactive waste	kg	4,63E-04	1,44E-07	1,89E-03	2,35E-03	8,42E-07	9,47E-09	ND	0,00E+00	ND	0,00E+00	ND	7,43E-05	ND	0,00E+00	3,74E-08	2,88E-07	2,37E-09	-6,15E-07

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	0,00E+00	ND	0,00E+00	ND	0,00E+00	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	1,40E-01	0,00E+00	2,10E-01	3,50E-01	0,00E+00	0,00E+00	ND	0,00E+00	ND	0,00E+00	ND	1,76E-09	ND	0,00E+00	0,00E+00	8,90E-01	0,00E+00	0,00E+00
Materials for energy rec	kg	8,24E-05	0,00E+00	0,00E+00	8,24E-05	0,00E+00	0,00E+00	ND	0,00E+00	ND	0,00E+00	ND	9,23E-18	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy	MJ	8,06E-03	0,00E+00	0,00E+00	8,06E-03	0,00E+00	2,56E+00	ND	0,00E+00	ND	0,00E+00	ND	0,00E+00	ND	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	3,80E-01	ND	0,00E+00	ND	0,00E+00	ND	0,00E+00	ND	0,00E+00	0,00E+00	0,00E+00	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	2,18E+00	ND	0,00E+00	ND	0,00E+00	ND	0,00E+00	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

ENVIRONMENTAL IMPACTS – EN 15804+A1, CML

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	3,18E+00	3,27E-02	1,74E-01	3,38E+00	2,93E-01	2,69E-02	ND	0,00E+00	ND	0,00E+00	ND	2,76E+00	ND	0,00E+00	1,43E-02	2,45E-02	6,25E-04	-1,45E+00
Ozone depletion Pot.	kg CFC ₁₁ e	1,98E-08	5,33E-10	3,01E-09	2,34E-08	3,41E-09	3,75E-11	ND	0,00E+00	ND	0,00E+00	ND	1,27E-07	ND	0,00E+00	1,86E-10	2,34E-10	1,45E-11	-5,93E-09
Acidification	kg SO ₂ e	7,85E-03	8,51E-05	8,19E-04	8,75E-03	7,81E-04	2,65E-05	ND	0,00E+00	ND	0,00E+00	ND	1,24E-02	ND	0,00E+00	3,70E-05	2,05E-04	3,31E-06	-5,32E-03
Eutrophication	kg PO ₄ ³ e	1,07E-03	1,92E-05	3,71E-02	3,82E-02	2,11E-04	1,03E-05	ND	0,00E+00	ND	0,00E+00	ND	2,06E-03	ND	0,00E+00	1,35E-05	3,05E-05	1,05E-06	-9,82E-04
POCP (“smog”)	kg C ₂ H ₄ e	8,11E-04	7,56E-06	7,32E-05	8,91E-04	6,80E-05	2,04E-06	ND	0,00E+00	ND	0,00E+00	ND	5,01E-04	ND	0,00E+00	3,30E-06	1,17E-05	3,13E-07	-7,19E-04
ADP-elements	kg Sbe	2,00E-05	9,26E-08	1,80E-06	2,19E-05	8,19E-07	6,71E-09	ND	0,00E+00	ND	0,00E+00	ND	6,00E-07	ND	0,00E+00	4,81E-08	1,37E-06	9,81E-10	-1,42E-05

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
ADP-fossil	MJ	3,44E+01	4,72E-01	2,70E+00	3,76E+01	4,14E+00	3,24E-02	ND	0,00E+00	ND	0,00E+00	ND	3,41E+01	ND	0,00E+00	1,95E-01	2,77E-01	1,53E-02	-1,44E+01

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 ⁹⁾	kg CO ₂ e	3,42E+00	3,30E-02	1,75E-01	3,63E+00	2,94E-01	2,69E-02	ND	0,00E+00	ND	0,00E+00	ND	2,77E+00	ND	0,00E+00	1,44E-02	2,45E-02	6,31E-04	-1,46E+00

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 – CH₄ fossil, CH₄ 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 CO₂ is set to zero

SCENARIO DOCUMENTATION

DATA SOURCES

Manufacturing energy scenario documentation

1. Electricity production, nuclear, boiling water reactor, Finland, Ecoinvent, 0.0075 kgCO₂e/kWh

Transport scenario documentation - A4 (Transport resources)

1. Transport, freight, lorry, >32 metric ton, diesel, EURO 5, 2190.0 km

Transport to the building site (A4) - Scenario documentation

Scenario parameter	Value
Capacity utilization (including empty return) %	50
Bulk density of transported products	432
Volume capacity utilization factor	1

Installation at the building site (A5) - Scenario documentation

Scenario parameter	Value
Energy: type and consumption (MJ or kWh)	-
Water use (m ³)	-
Ancillary materials: type and mass (kg)	-
Waste materials: type and mass (kg)	0.1 kg of wooden pallet, 0.1 kg softwood board and 0.01 kg plastic wrapping film.
Waste materials: output routes	Wooden pallet, softwood board and plastic wrapping film: 0.21 kg for energy incineration
Direct emissions (kg)	-

Use stages scenario documentation - B2 Maintenance

Scenario information	Value
Maintenance process description	-
Maintenance cycle (per RSL)	
Energy use (kWh/cycle)	-
Water use (m3 or litres/cycle)	-
Ancillary materials (kg/cycle)	-
Waste materials (kg/cycle)	-

Use stages scenario documentation - B4 Replacement

Scenario information	Value
Replacement cycle (per RSL)	
Activity type, Energy use (kWh)	-
Exchange of worn parts, mass (kg)	-

End of life (C1-C4) - Scenario documentation

Scenario information	Value
Collection process: collected separately (kg)	0.99
Collection process: Mixed waste (kg)	0,0101
Recovery: re-use (kg)	0
Recovery: recycling (kg)	0,89
Recovery: energy recovery (kg)	0,01
Disposal (kg)	0,1
Scenario assumptions e.g. transportation (mode, km) & other	Lorry, 16-32 metric ton, EURO5; 75 km

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

Elena Antuña-Bernardo as an authorized verifier for EPD Hub Limited
01.10.2026

