epddanmark

ECO PLATFORM EPD VERIFIED

Owner: Plastmo A/S
No.: MD- 24157 -EN
Issued: 18-12-2024
Valid to: 18-12-2029

3rd PARTY **VERIFIED**

EPD

VERIFIED ENVIRONMENTAL PRODUCT DECLARATION | **ISO 14025 & EN 15804**

Owner of declaration
Plastmo A/S
Odinsvej 9-11
4100 Ringsted
Denmark
CVR-nr.: 33 05 16 62

Programme
EPD Danmark
www.epddanmark.dk

☐ Industry EPD
☒ Product EPD

Declared product(s)
Retro Zinc Rain Gutter System

Number of declared datasets/product variations: 1

Production site
Odinsvej 9-11
4100 Ringsted
Denmark

No Guarantee of Origin (GO) have been used in A3 (production)

Product(s) use
Rain gutters for buildings

Declared unit
30-meter Retro Zinc Rain Gutter System

Year of production site data (A3)
2023

EPD version
No. 1

Issued: 18-12-2024
Valid to: 18-12-2029

Basis of calculation
This EPD is developed in accordance with the European standard EN 15804+A2.

Comparability
EPDs of construction products may not be comparable if they do not comply with the requirements in EN 15804. EPD data may not be comparable if the datasets used are not developed in accordance with EN 15804 and if the background systems are not based on the same database.

Validity
This EPD has been verified in accordance with ISO 14025 and is valid for 5 years from the date of issue.

Use
The intended use of an EPD is to communicate scientifically based environmental information for construction products, for the purpose of assessing the environmental performance of buildings.

EPD type
☐Cradle-to-gate with modules C1-C4 and D
☐Cradle-to-gate with options, modules C1-C4 and D
☒Cradle-to-grave and module D
☐Cradle-to-gate
☐Cradle-to-gate with options

CEN standard EN 15804 serves as the core PCR

Independent verification of the declaration and data, according to EN ISO 14025

☐ internal ☒ external

Third party verifier:

[Mirko Miseljic, LCA Specialists]

Martha Katrine Sørensen
EPD Danmark

Life cycle stages and modules (MND = module not declared)																
Product			Construction process		Use							End of life				Beyond the system boundary
Raw material supply	Transport	Manufacturing	Transport	Installation process	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Re-use, recovery and recycling potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Product information

Product description

The Retro Zinc Rain Gutter System is produced of zinc and it is installed with galvanized steel components. Zinc reacts with moisture and atmospheric CO_2 to form a dense, adhesive, and water-insoluble protective natural layer, also known as patina. This natural coating protects the zinc from rust and corrosion, as well as enables a relatively long service life. Therefore, zinc gutters can be used for all roof types.[1]

Zinc is easy to work with and it can be clicked, glued, or soldered together for assembling the parts.

Since a gutter system consists of different parts, an average scenario has been chosen as declared unit for which components normally is used for a 30-meter roof on a one-story building and includes all parts e.g., rain gutter, down pipe etc. In case of another scenario, the environmental impacts can be calculated based on weight.

The main product components are shown in the table below.

Material	Weight-% of declared product
Retro Zinc zinc-parts (Gutter, downpipe, spout piece, bending, pipe socket, assembly piece, end cap, collar, console)	71.5
Retro Zinc steel-parts (gutter holder and pipe holder)	28.5

Product packaging:

The product packaging weights 10.90 kg in total. The composition of the sales and transport packaging of the product is shown in the table below.

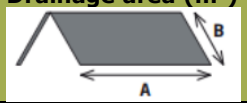
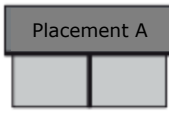
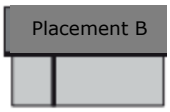
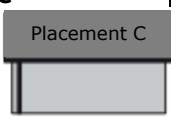
Material	Weight-% of packaging
LDPE foil	3%
Cardboard	2%
EUR pallet	95%

Essential characteristics

This EPD is representative of a typical 30-meter Retro Zinc Rain Gutter System.

The system is colorless, without paint, and it is available in half-round dimension.

The system comes in size 280 mm which is adapted to be installed on traditional house types. To ensure sufficient drainage capacity, the roof area should be calculated and used to decide on the placement of the down pipe. The drainage area of Retro Zinc gutter 280 mm depends on the placement of the down pipe.

Rain gutter Placing	Drainage area (m^2) 
	No. 11
A 	200
B 	128
C 	95

Further technical information about installation, use and disposal can be obtained by contacting the manufacturer or on the manufacturer's website: www.plastmo.dk

Representativity

This declaration, including data collection and the modeled foreground system including results, represents the production of a 30-meter Retro Zinc Rain Gutter System on the production site located in Denmark. Product specific data are based on average values collected in the period January to December 2023 and delivered by Plastmo and their suppliers. Background data are based on the Sphera database and Ecoinvent.

[1] VMZINC World

Generally, the used background datasets are of high quality, and the majority of the datasets are only a couple of years old.

Hazardous substances

The Retro Zinc Rain Gutter System does not contain substances listed on the "Candidate List of Substances of Very High Concern for authorization"[2].

Reference Service Life (RSL)

The Reference service life is 40 years based on the service life of zinc rain gutters available in BUILD service life table version 2021[3]. The RSL is applicable under normal use conditions.

Picture of product(s)

LCA background

Declared unit

The LCI and LCIA results in this EPD relates to a "30-meter Retro Zinc Rain Gutter System" with a reference service life of 40 years.

Name	Value	Unit
Declared unit	1	item
Item weight	78.86	kg/item
Conversion factor to 1 kg.	0.0127	-

Functional unit

Not defined.

PCR

This EPD is developed according to the core rules for the product category of construction products in PCR EN 15804:2012+A2:2019.

Guarantee of Origin – certificates

Foreground system:

The electricity production is modelled using residual mix secondary data.

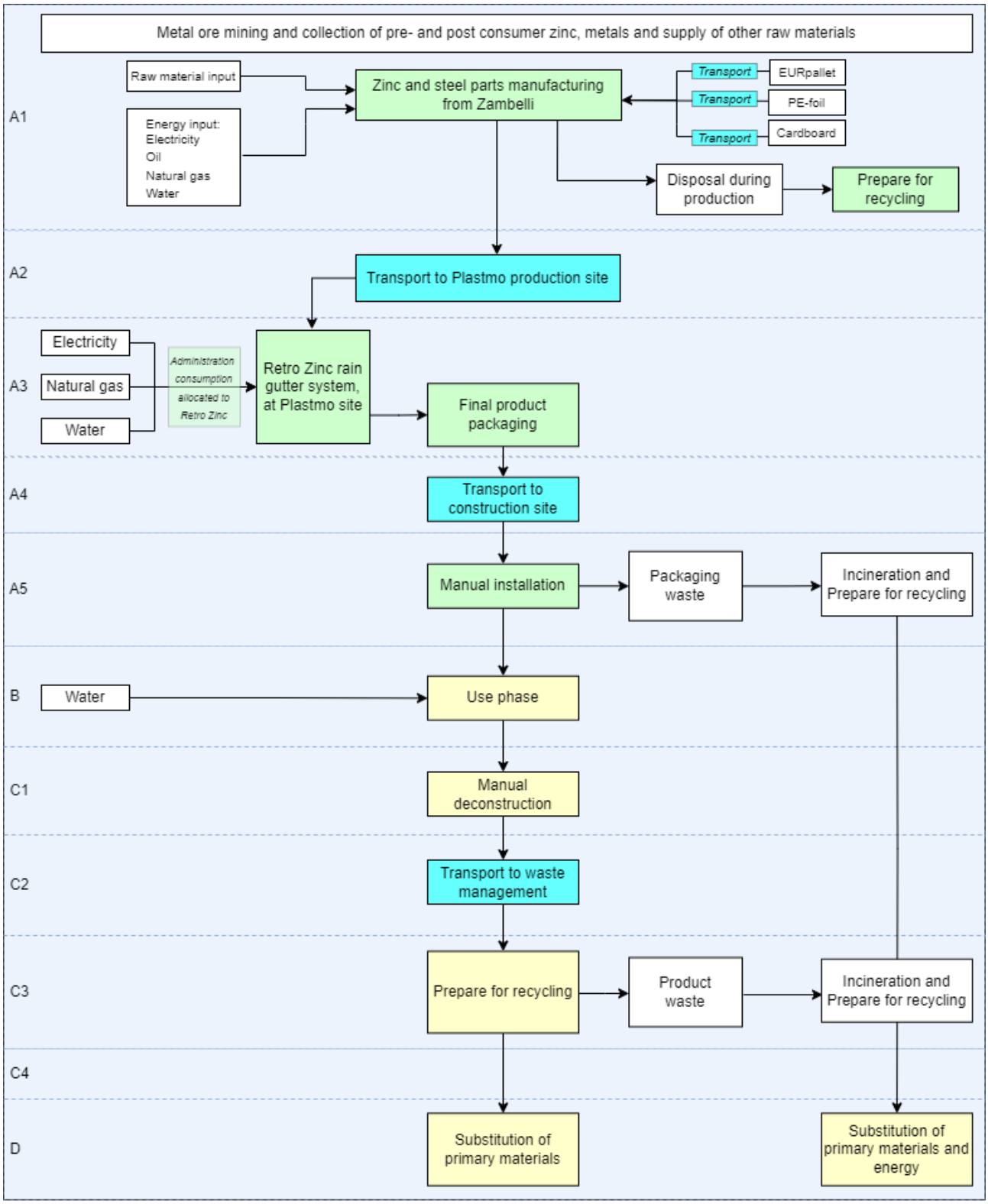
Background system:

Upstream and downstream electricity processes are modelled using grid mix secondary data.

[2] Candidate List of substances of very high concern for Authorisation - ECHA (europa.eu)

[3] BUILD levetidstabel: Version 2021 — Aalborg Universitets forskningsportal (aau.dk)

Flowdiagram



System boundaries of the entire life cycle of the Retro Zinc Rain Gutter System divided into the relevant modules. All modules are covered in this LCA. Color coding; White: inputs & outputs; blue: transport; green: A modules; yellow: B-D modules.

System boundary

This EPD is based on a cradle-to-grave LCA, in which 100 weight-% has been accounted for.

The general rules for the exclusion of inputs and outputs follows the requirements in EN 15804, 6.3.5, where the total of neglected input flows per module shall be a maximum of 5 % of energy usage and mass and 1 % of energy usage and mass for unit processes.

Product stage (A1-A3) includes:

A1 – Extraction and processing of raw materials

A2 – Transport to the production site

A3 – Manufacturing processes

The modules A1-A3 are aggregated and comprise the acquisition of all raw materials, products and energy, transport to the production site, packaging, and waste processing of both waste from manufacturing and treatment of raw material packaging waste up to the "end-of-waste" state or final disposal. The production waste from manufacturing is sent to recycling.

No benefits from recycling of waste or energy recovery from A3 is credited in module D.

All the parts and components of the Retro Zinc Rain Gutter System are manufactured by Zambelli GmbH at the same site. The parts and components are collected, assembled, and repackaged by Plastmo A/S. The manufacturing of the zinc used to produce Retro Zinc is summarized in five stages:

1. Alloy Preparation: A master alloy containing copper, titanium, and aluminum is created.
2. Smelting: Zinc cathodes/ingots and the master alloy are melted together.
3. Casting: The molten alloy is cast into a continuous strand.
4. Rolling: The strand is rolled to the desired thickness.
5. Finishing: The rolled zinc is stretched and cut to final dimensions.

Mass allocation has been applied to the electricity, heat, and water inputs consumed at Zambelli's site and Plastmo's site needed in the manufacturing and processing of the Retro Zinc Rain Gutter System.

Construction process stage (A4-A5) includes:

The sales market is Denmark and Norway.

The products are transported to the building site by truck. An average distance of 973 km by truck is used.

There is no waste associated with installation. The rain gutters are installed manually.

Use stage (B1-B7) includes:

The Retro Zinc Rain Gutter System needs very little maintenance. If dirt and leaves accumulate in the gutter, it can be manually removed with a brush. Dirt on the outside of the rain gutters can for sight's sake be removed with water on a cloth. It is assumed that the rain gutters are washed every 5 years and 5L of water is used each time, giving 40 L of water over a 40-year period.

As the cleaning is performed on the exterior of the system, and outdoors, using just water it is assumed the used water drains into the terrain rather than being transported to a wastewater treatment facility.

End of Life (C1-C4) includes:

It is commonly practiced the rain gutter system is deconstructed manually.

The product is transported 60 km by truck to a waste management facility in Europe, as an average distance to waste handling facilities[4].

Based on "Danmarks Statistik *Waste Statistics"* and "Norway's Statistisk Sentralbyrå *Waste Aaccounts"* the waste handling of metal waste is modeled as 99.8% to recycling, 0.125% representing a slight lost to incineration with energy recovery, and 0% landfill.

[4] Andreasi Bassi et al., 2017, Environmental Performance of household waste management in Europe – An example of 7 countries. https://doi.org/10.1016/j.wasman.2017.07.042

Re-use, recovery and recycling potential (D) includes:

Module D includes material credits and thermal and electrical energy credits from waste handling of product packaging and product waste from the modules A5 and C3.

LCA results

Environmental Impacts

ENVIRONMENTAL IMPACTS PER 30 meter Retro Zinc Rain Gutter System with RSL of 40 years											
Parameter	**Unit**	**A1-A3**	**A4**	**A5**	**B2**	**B1, B3-B7**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-total	[kg CO_2 eq.]	2.33E+02	8.00E-01	1.85E+01	3.16E-03	0.00E+00	0.00E+00	4.86E-01	2.91E-01	0.00E+00	-1.82E+02
GWP-fossil	[kg CO_2 eq.]	2.50E+02	7.87E-01	7.94E-01	3.15E-03	0.00E+00	0.00E+00	4.78E-01	2.91E-01	0.00E+00	-1.82E+02
GWP-biogenic	[kg CO_2 eq.]	-1.77E+01	0.00E+00	1.77E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
GWP-luluc	[kg CO_2 eq.]	2.41E-01	1.31E-02	1.10E-03	2.58E-06	0.00E+00	0.00E+00	7.96E-03	4.29E-05	0.00E+00	-5.78E-02
ODP	[kg CFC 11 eq.]	2.38E-07	1.15E-13	1.03E-13	1.72E-14	0.00E+00	0.00E+00	6.98E-14	1.56E-09	0.00E+00	-3.04E-09
AP	[mol H^+ eq.]	1.20E+00	1.17E-03	2.09E-04	5.45E-06	0.00E+00	0.00E+00	7.11E-04	5.92E-04	0.00E+00	-9.42E-01
EP-freshwater	[kg P eq.]	1.02E-02	3.33E-06	3.00E-07	4.61E-07	0.00E+00	0.00E+00	2.02E-06	1.18E-06	0.00E+00	-3.83E-04
EP-marine	[kg N eq.]	3.02E-01	4.41E-04	6.54E-05	3.30E-06	0.00E+00	0.00E+00	2.68E-04	1.46E-04	0.00E+00	-2.38E-01
EP-terrestrial	[mol N eq.]	3.22E+00	5.20E-03	9.44E-04	1.72E-05	0.00E+00	0.00E+00	3.16E-03	1.54E-03	0.00E+00	-2.54E+00
POCP	[kg NMVOC eq.]	8.37E-01	1.16E-03	1.78E-04	4.65E-06	0.00E+00	0.00E+00	7.07E-04	3.89E-04	0.00E+00	-6.55E-01
ADPm[1]	[kg Sb eq.]	1.04E-01	6.79E-08	6.60E-09	1.85E-10	0.00E+00	0.00E+00	4.12E-08	5.28E-08	0.00E+00	-8.80E-02
ADPf[1]	[MJ]	3.58E+03	1.03E+01	1.02E+00	4.72E-02	0.00E+00	0.00E+00	6.24E+00	6.02E+00	0.00E+00	-2.57E+03
WDP[1]	[m^3 world eq. deprived]	7.89E+01	1.21E-02	8.64E-02	1.72E+00	0.00E+00	0.00E+00	7.33E-03	9.22E-02	0.00E+00	-5.84E+01
Caption	GWP-total = Globale Warming Potential - total; GWP-fossil = Global Warming Potential - fossil fuels; GWP-biogenic = Global Warming Potential - biogenic; GWP-luluc = Global Warming Potential - land use and land use change; ODP = Ozone Depletion; AP = Acidification; EP-freshwater = Eutrophication – aquatic freshwater; EP-marine = Eutrophication – aquatic marine; EP-terrestrial = Eutrophication – terrestrial; POCP = Photochemical zone formation; ADPm = Abiotic Depletion Potential – minerals and metals; ADPf = Abiotic Depletion Potential – fossil fuels; WDP = Water Depletion Potential										
	The numbers are declared in scientific notation, e.g., 1.95E+02. This number can also be written as: $1.95*10^2$ or 195, while 1.12E-11 is the same as $1.12*10^{-11}$ or 0.0000000000112.										
Disclaimer	[1] The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.										

Additional Environmental Impacts

ADDITIONAL ENVIRONMENTAL IMPACTS PER 30 meter Retro Zinc Rain Gutter System with RSL of 40 years											
Parameter	**Unit**	**A1-A3**	**A4**	**A5**	**B2**	**B1, B3-B7**	**C1**	**C2**	**C3**	**C4**	**D**
PM	[Disease incidence]	2.05E-05	1.13E-08	1.60E-09	1.14E-10	0.00E+00	0.00E+00	6.86E-09	5.00E-09	0.00E+00	-1.69E-05
IRP[2]	[kBq U235 eq.]	3.45E+01	2.71E-03	2.22E-03	2.14E-04	0.00E+00	0.00E+00	1.65E-03	1.56E-01	0.00E+00	-3.45E+01
ETP-fw[1]	[CTUe]	7.19E+02	7.63E+00	7.03E-01	3.05E-02	0.00E+00	0.00E+00	4.63E+00	1.74E+00	0.00E+00	-4.64E+02
HTP-c[1]	[CTUh]	1.56E-07	1.54E-10	1.96E-11	2.75E-12	0.00E+00	0.00E+00	9.35E-11	9.72E-11	0.00E+00	-1.04E-07
HTP-nc[1]	[CTUh]	6.88E-06	6.91E-09	6.71E-10	2.32E-10	0.00E+00	0.00E+00	4.20E-09	1.81E-09	0.00E+00	-5.55E-06
SQP[1]	-	1.64E+03	5.05E+00	4.78E-01	7.22E-03	0.00E+00	0.00E+00	3.07E+00	2.50E+00	0.00E+00	-1.22E+03
Caption	PM = Particulate Matter emissions; IRP = Ionizing radiation – human health; ETP-fw = Eco toxicity – freshwater; HTP-c = Human toxicity – cancer effects; HTP-nc = Human toxicity – non cancer effects; SQP = Soil Quality (dimensionless)										
	The numbers are declared in scientific notation, e.g., 1.95E+02. This number can also be written as: $1.95*10^2$ or 195, while 1.12E-11 is the same as $1.12*10^{-11}$ or 0.0000000000112.										
Disclaimers	[1] The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.										
	[2] 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.										

Resource Use

RESOURCE USE PER 30 meter Retro Zinc Rain Gutter System with RSL of 40 years											
Parameter	**Unit**	**A1-A3**	**A4**	**A5**	**B2**	**B1, B3-B7**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	[MJ]	1.42E+03	8.85E-01	1.34E-01	9.88E-03	0.00E+00	0.00E+00	5.37E-01	4.28E+00	0.00E+00	-1.19E+03
PERM	[MJ]	1.05E+01	0.00E+00	-1.05E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	[MJ]	1.43E+03	8.85E-01	-1.04E+01	9.88E-03	0.00E+00	0.00E+00	5.37E-01	4.28E+00	0.00E+00	-1.19E+03
PENRE	[MJ]	3.58E+03	1.03E+01	1.02E+00	4.72E-02	0.00E+00	0.00E+00	6.24E+00	6.02E+00	0.00E+00	-2.57E+03
PENRM	[MJ]	1.31E+01	0.00E+00	-1.31E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PENRT	[MJ]	3.59E+03	1.03E+01	-1.20E+01	4.72E-02	0.00E+00	0.00E+00	6.24E+00	6.02E+00	0.00E+00	-2.57E+03
SM	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RSF	[MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NRSF	[MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	[m^3]	3.14E+00	9.86E-04	2.09E-03	4.01E-02	0.00E+00	0.00E+00	5.99E-04	3.62E-03	0.00E+00	-2.44E+00
Caption	PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non renewable primary energy excluding non renewable primary energy resources used as raw materials; PENRM = Use of non renewable primary energy resources used as raw materials; PENRT = Total use of non renewable primary energy resources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non renewable secondary fuels; FW = Net use of fresh water										
	The numbers are declared in scientific notation, e.g., 1.95E+02. This number can also be written as: $1.95*10^2$ or 195, while 1.12E-11 is the same as $1.12*10^{-11}$ or 0.0000000000112.										

Waste Categories and Output Flows

WASTE CATEGORIES AND OUTPUT FLOWS PER 30 meter Retro Zinc Rain Gutter System with RSL of 40 years											
Parameter	**Unit**	**A1-A3**	**A4**	**A5**	**B2**	**B1,B3-B7**	**C1**	**C2**	**C3**	**C4**	**D**
HWD	[kg]	6.35E-01	3.93E-10	1.56E-10	2.12E-11	0.00E+00	0.00E+00	2.39E-10	8.53E-09	0.00E+00	-2.40E-03
NHWD	[kg]	9.60E+01	1.68E-03	7.09E-03	1.14E-02	0.00E+00	0.00E+00	1.02E-03	4.88E-03	0.00E+00	-8.14E+01
RWD	[kg]	3.27E-01	1.87E-05	1.39E-05	1.46E-06	0.00E+00	0.00E+00	1.14E-05	9.69E-04	0.00E+00	-2.77E-01
CRU	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MFR	[kg]	1.40E+01	0.00E+00	5.82E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.88E+01	0.00E+00	0.00E+00
MER	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EEE	[MJ]	0.00E+00	0.00E+00	1.77E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EET	[MJ]	0.00E+00	0.00E+00	3.15E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Caption	HWD = Hazardous waste disposed; NHWD = Non hazardous waste disposed; RWD = Radioactive waste disposed; CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported electrical energy; EET = Exported thermal energy										
	The numbers are declared in scientific notation, e.g., 1.95E+02. This number can also be written as: $1.95*10^2$ or 195, while 1.12E-11 is the same as $1.12*10^{-11}$ or 0.0000000000112.										

Biogenic Carbon Content

BIOGENIC CARBON CONTENT PER 30 meter Retro Zinc Rain Gutter System with RSL of 40 years		
Parameter	**Unit**	**At the factory gate**
Biogenic carbon content in product	[kg C]	0
Biogenic carbon content in accompanying packaging	[kg C]	4.82
Note: 1 kg biogenic carbon is equivalent to 44/12 kg of CO_2		

Additional information

LCA interpretation

The results in this EPD relate to a 30-meter Retro Zinc Rain Gutter System. The calculated environmental impacts clearly reflect the environmental impacts from the production of Retro Zinc in module A1 as the dominant source of impact.

Carbon footprint per kg of product and per m of product

The calculation of the GWP-total per kg is based on the calculated GWP-total for the declared unit divided by the weight of the product (78.86 kg). The same approach is used to calculate the GWP-total per meter, but instead the declared unit is divided by 30 m.

	A1-A3	A4	A5	B2	B1, B3-B7	C1	C2	C3	C4	D
GWP-total of 30-meter system [kg CO_2 eq.]	2.33E+02	8.00E-01	1.85E+01	3.16E-03	0.00E+00	0.00E+00	4.86E-01	2.91E-01	0.00E+00	-1.82E+02
GWP-total per kg product [kg CO_2 eq.]	2.95E+00	1.01E-02	2.34E-01	4.00E-05	0.00E+00	0.00E+00	6.16E-03	3.69E-03	0.00E+00	-2.31E+00
GWP-total per m product [kg CO2 eq.]	7.76E+00	2.67E-02	6.15E-01	1.05E-04	0.00E+00	0.00E+00	1.62E-02	9.70E-03	0.00E+00	-6.08E+00

Technical information on scenarios

Transport to the building site (A4)

Scenario information	Value	Unit
Fuel type	Diesel	-
Vehicle type	Truck, EURO 6	-
Transport distance	86.25	km
Capacity utilisation (including empty runs)	20-26t gross weight / 17.3t payload capacity / utilisation factor 61%	%
Gross density of products transported	244.17	kg/m^3
Capacity utilisation volume factor	1	-

Installation of the product in the building (A5)

Scenario information	Value	Unit
Ancillary materials	0	kg
Water use	0	m^3
Other resource use	0	kg
Energy type and consumption	0	kWh
Waste materials (packaging)	10.9	kg
Output materials	0	kg
Direct emissions to air, soil or water	0	kg

Reference service life

RSL information		Unit
Reference service Life	40	Years
Declared product properties	30-meter Retro Zinc Rain Gutter System	-
Assumed quality of work	Instructions are available at www.plastmo.dk	-
Maintenance	Cleaning exterior with water every 5 years	-

Use (B1-B7)

Scenario information	Value	Unit
B2 - Maintenance		
Maintenance process	Cleaning with water	-
Maintenance cycle	1	times/5 years
Ancillary materials for maintenance - none	-	-
Waste materials resulting from maintenance - none	-	-
Net freshwater consumption during maintenance	5	L/cycle
Energy input during maintenance	0	kWh

End of life (C1-C4)

Scenario information	**Value**	**Unit**	**Waste fraction**	**Passed on to module D**
Collected separately	78.762	kg	Metal	
Zinc parts, Retro Zinc	*56.350*	*kg*	*Zinc*	
Steel parts, Retro Zinc	*22.412*	*kg*	*Steel*	
Collected with mixed waste	0.098	kg	MSW (Metals)	
For reuse	0	kg	-	
For recycling	78.76	kg	Metal	
Zinc parts, Retro Zinc	*56.350*	*kg*	*Zinc*	Yes
Steel parts, Retro Zinc	*22.412*	*kg*	*Steel*	Yes
For energy recovery	0.098	kg	MSW (Metals)	
Zinc parts, Retro Zinc	*0.070*	*kg*	*Zinc*	*No*
Steel parts, Retro Zinc	*0.028*	*kg*	*Steel*	*No*
For final disposal	0	kg	-	

Re-use, recovery and recycling potential (D)

Scenario information/Materiel	Value
Scenario information/Material	Quantity per declared unit
Plastic film waste from packaging	
MFR (kg)	0.0689
EET (MJ)	2.75
EEE (MJ)	1.54
Cardboard waste from packaging	
MFR (kg)	0.139
EET (MJ)	0.238
EEE (MJ)	0.131
Wood waste from packaging	
MFR (kg)	0.374
EET (MJ)	0.17
EEE (MJ)	0.0941
Product credits, end of life	
Retro Zinc-zinc parts	
MFR (kg)	56.3
EET (MJ)	0
EEE (MJ)	0
Retro Zinc-steel parts	
MFR (kg)	22.4
EET (MJ)	0
EEE (MJ)	0

Indoor air

The EPD does not give information on release of dangerous substances to indoor air because the horizontal standards on the relevant measurements are not available. Read more in EN15804+A1 chapter 7.4.1.

Soil and water

The EPD does not give information on release of dangerous substances to soil and water because the horizontal standards on the relevant measurements are not available. Read more in EN15804+A1 chapter 7.4.2.

References

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General programme instructions
General Programme Instructions, version 2.0, spring 2020
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