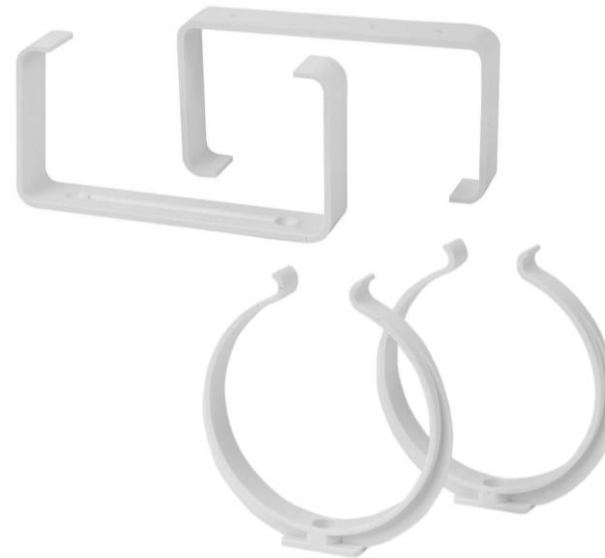




ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

Plastic ventilation mounting clamps
SIA EIROPLASTS



EPD HUB, HUB-6769

Published on 26.06.2026, last updated on 26.06.2026, valid until 25.06.2031

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



GENERAL INFORMATION

MANUFACTURER

Manufacturer	SIA EIROPLASTS
Address	32/6 Granīta Street, Acone, LV-2119, Latvia
Contact details	euoplast@euoplast.lv
Website	https://www.euoplast.lv

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	Laura Šalme, SIA EIROPLASTS
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	Haiha Nguyen as an authorized verifier for EPD Hub

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	Plastic ventilation mounting clamps
Additional labels	-
Product reference	KZ, KZ25, KZ29, AZ100, AZ125, AZ150
Place(s) of raw material origin	EU
Place of production	Latvia, Acone
Place(s) of installation and use	Europe, Middle East & Central Asia (incl. Sweden, Norway, UK, EU, Caucasus, Israel, Qatar, Lebanon)
Period for data	01/01/2024 - 31/12/2024
Averaging in EPD	Multiple products
Variation in GWP-fossil for A1-A3 (%)	-11,43% / +20,88%
GTIN (Global Trade Item Number)	-
NOBB (Norwegian Building Product Database)	-
A1-A3 Specific data (%)	73,8

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 kg plastic ventilation duct system part made from 93% recycled polystyrene
Declared unit mass	1 kg
Mass of packaging	0,814 kg
GWP-fossil, A1-A3 (kgCO₂e)	4,55
GWP-total, A1-A3 (kgCO₂e)	3,57
Secondary material, inputs (%)	98,7
Total energy use, A1-A3 (kWh)	8,45
Net freshwater use, A1-A3 (m³)	0,03

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

EUROPLAST - a producer of ventilation systems and elements since 1998.

PRODUCT DESCRIPTION

This Environmental Product Declaration covers plastic mounting clamps designed for fixing and supporting ventilation ducts within mechanical ventilation systems. The clamps are manufactured from re-granulated recycled polystyrene (rPS), containing $\geq 93\%$ post-consumer recycled material and approximately 7% virgin polymer.

The mounting clamps are used to secure ventilation ducts to walls, ceilings, or other supporting building structures during installation. They provide stable mechanical support and ensure proper positioning and alignment of ductwork within the ventilation system.

The clamps are intended for indoor installation in residential and commercial buildings and are compatible with rectangular or flat plastic ventilation ducts used in air distribution systems. By maintaining correct duct positioning, the clamps help prevent movement, deformation, or sagging of ducts during operation.

Manufactured from durable recycled polystyrene, the clamps offer good mechanical strength, dimensional stability, and resistance to moisture and typical indoor environmental conditions. The use of recycled plastic reduces the environmental footprint of the product while maintaining the required functional performance. At the end of their service life, the plastic material can be collected and recycled where suitable waste management systems are available.

The clamps are lightweight and designed for easy handling and installation. Mounting holes allow the clamps to be fixed to building structures using

standard screws or fasteners, enabling quick installation with common hand tools. Once installed, the clamps ensure reliable support of ventilation ducts and contribute to the long-term stability of the ventilation system.

Further information can be found at: <https://www.europlast.lv>

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	-	-
Minerals	-	-
Fossil materials	65,7	Europe
Bio-based materials	34,3	Europe

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	0,291

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 kg plastic ventilation duct system part made from 93% recycled polystyrene
Mass per declared unit	1 kg
Functional unit	-
Reference service life	30 years

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

Not declared = ND.

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.

Plastic ventilation mounting clamps are manufactured from recycled polystyrene (rPS), comprising approximately 93% post-consumer recycled content and 7% virgin polystyrene to maintain stable material properties and consistent product quality. The raw polymer is supplied as granulate in bulk bags and delivered directly to the manufacturing facility for storage and processing. Production is carried out using an injection molding process, in which polymer granulate is melted, injected into molds, cooled, and subsequently ejected as finished components under controlled process conditions. The molded parts are temporarily stored within the production area before being transferred to the packaging line. Electricity consumption during manufacturing includes the operation of injection molding machines and auxiliary equipment for material handling, packaging, and labeling. Electricity is modeled as a mix of grid electricity and electricity generated from photovoltaic panels, including grid losses. Production scrap and rejected parts are collected and, where technically feasible, reprocessed into the production cycle. Other waste streams, such as residual polymer materials and packaging waste, are sorted on-site and transferred to certified recycling partners in Latvia for mechanical recycling. No recycling credits are claimed for these flows in the life cycle assessment. Before dispatch, finished products undergo visual inspection and labelling. Unit packaging consists primarily of polyethylene film and product labels, selected to ensure adequate protection during transport while minimizing packaging material use. The packaged products are then prepared for distribution to construction material warehouses.

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.

Transport to construction sites (A4) is modelled based on typical logistics and actual sales distribution data. Products are transported by road using fully loaded trucks. Return trips are not included in the model, as logistics providers typically utilize return journeys for other freight transport. Transport impacts are calculated per declared unit and include the mass of both the product and its packaging. Environmental impacts in module A4 cover emissions from fuel combustion during transport. The weighted average transport distance from Latvia, Acone to customers is approximately 740 km by road. Installation of the ventilation mounting clamps (A5) is carried out manually using basic hand tools. The installation process does not require electricity, fuel, or water, and therefore, no energy consumption is accounted for in module A5. Two or three steel screws per declared units are required for installation and are modelled as ancillary installation materials in module A5, they are not part of the product packaging. In new buildings, new screws are used, while in renovation or replacement scenarios existing screws may be reused. No direct emissions to air, soil, or water occur during installation. Waste generated at the construction site consists only of packaging materials, including wood, cardboard, and plastic film. These waste streams are modelled according to defined waste treatment routes for recycling, energy recovery, or disposal.

PRODUCT USE AND MAINTENANCE (B1-B7)

The use stage is not assessed, as it is no impacts are expected to occur during the use of the product.

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

PRODUCT END OF LIFE (C1-C4, D)

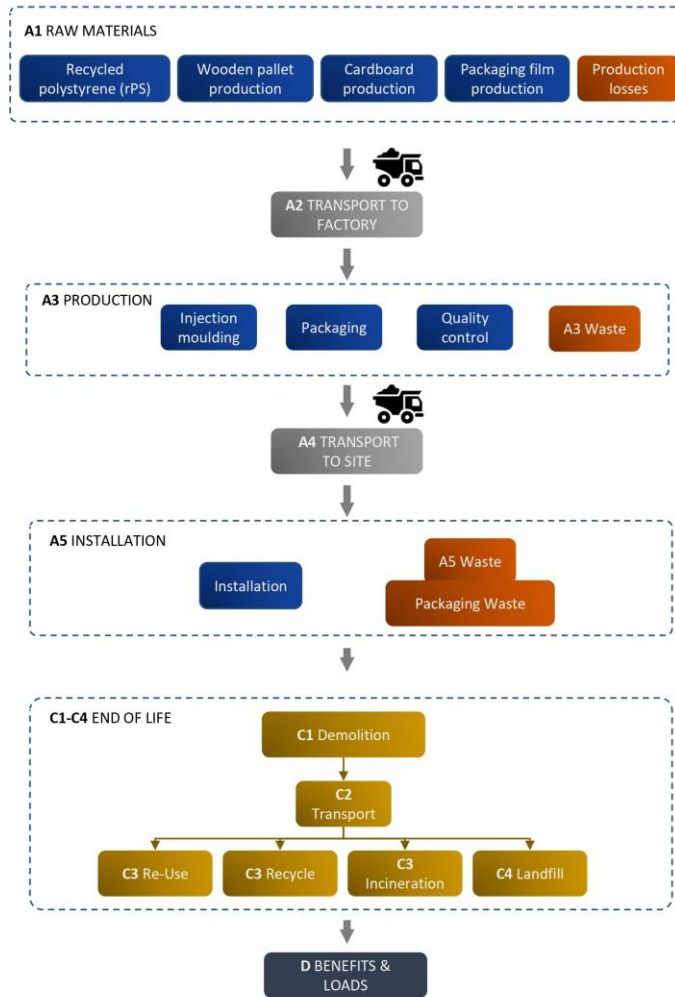
At the end of life, ventilation mounting clamps are assumed to be dismantled manually during building deconstruction. No electricity, fuel, or water consumption is considered relevant for module C1.

After dismantling, the products are collected and transported to appropriate waste treatment facilities. Transport to waste treatment is modelled in module C2 using representative European lorry transport distances. As approximately 90% of the products are sold within the European Union, a European average end-of-life scenario is considered representative. Modules C3 and C4 cover the treatment and final disposal of the plastic materials contained in the products. Module C3 includes sorting, recycling processes, and incineration with energy recovery for combustible fractions. Module C4 includes the final disposal of materials sent to landfill. Waste treatment processes are modelled using European average datasets in accordance with EN 15804.

Module D reports the potential benefits and loads beyond the system boundary resulting from material and energy recovery at the end of life. Recycled plastic material is assumed to substitute equivalent virgin plastic production according to European average substitution assumptions.

Combustible plastic fractions sent to incineration are assumed to generate energy, which substitutes average European electricity and heat production. All benefits and loads reported in module D are calculated beyond the end-of-waste state and are declared separately from modules A-C, in accordance with the modularity and polluter-pays principles of EN 15804.

MANUFACTURING PROCESS AND SYSTEM BOUNDARY



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

PRODUCT & MANUFACTURING SITES GROUPING

Type of grouping	Multiple products
Grouping method	Based on average results of product group - by total mass
Variation in GWP-fossil for A1-A3, %	-12,55% / +19,05%

More information about product grouping in the Annex.

LCA SOFTWARE AND BIBLIOGRAPHY

This EPD has been created using One Click LCA EPD Generator for EPD Hub V3 and EPD Process Certification v3.2.4. 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'.

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	2,44E-01	1,72E-01	3,15E+00	3,57E+00	2,62E-01	1,42E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,44E-02	1,19E+00	6,18E-01	-2,64E+00
GWP – fossil	kg CO ₂ e	2,44E-01	1,72E-01	4,13E+00	4,55E+00	2,62E-01	4,11E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,44E-02	1,19E+00	6,18E-01	-2,10E+00
GWP – biogenic	kg CO ₂ e	1,39E-04	3,61E-05	-9,99E-01	-9,99E-01	5,19E-05	1,01E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	5,33E-06	-6,96E-05	-5,10E-05	-5,45E-01
GWP – LULUC	kg CO ₂ e	4,27E-05	7,70E-05	1,59E-02	1,60E-02	9,26E-05	3,64E-05	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,08E-05	9,58E-06	6,53E-06	1,96E-03
Ozone depletion pot.	kg CFC ₋₁₁ e	1,75E-09	2,54E-09	8,88E-08	9,31E-08	5,21E-09	1,88E-09	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,41E-10	4,92E-10	2,92E-10	-9,86E-09
Acidification potential	mol H ⁺ e	4,26E-04	5,87E-04	1,32E-02	1,42E-02	8,19E-04	5,44E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	8,14E-05	3,03E-04	1,57E-04	-2,84E-03
EP-freshwater ²⁾	kg Pe	2,65E-03	1,34E-05	1,62E-03	4,28E-03	1,74E-05	6,45E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,90E-06	3,83E-06	2,17E-06	-3,96E-04
EP-marine	kg Ne	1,66E-04	1,93E-04	3,56E-03	3,92E-03	2,76E-04	6,31E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,64E-05	1,69E-04	6,03E-04	-7,32E-04
EP-terrestrial	mol Ne	1,80E-03	2,10E-03	3,28E-02	3,67E-02	3,00E-03	1,53E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,87E-04	1,48E-03	7,42E-04	-7,91E-03
POCP (“smog”) ³⁾	kg NMVOCe	9,14E-04	8,65E-04	1,21E-02	1,39E-02	1,28E-03	5,55E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,13E-04	3,79E-04	1,99E-04	-2,85E-03
ADP-minerals & metals ⁴⁾	kg Sbe	2,77E-07	4,80E-07	1,69E-05	1,76E-05	8,57E-07	1,43E-06	ND	ND	ND	ND	ND	ND	ND	0,00E+00	8,02E-08	8,67E-08	4,91E-08	-8,10E-06
ADP-fossil resources	MJ	4,36E+00	2,50E+00	6,54E+01	7,23E+01	3,68E+00	2,11E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,42E-01	2,78E-01	1,79E-01	-8,46E+00
Water use ⁵⁾	m ³ e depr.	9,45E-03	1,23E-02	1,10E+00	1,12E+00	1,81E-02	5,63E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,59E-03	7,85E-02	3,95E-02	5,78E-02

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	1,07E-08	1,72E-08	8,69E-08	1,15E-07	2,06E-08	4,25E-09	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,94E-09	2,31E-09	1,16E-09	-3,27E-08
Ionizing radiation ⁶⁾	kBq I1235e	3,49E-03	2,18E-03	4,69E-01	4,75E-01	4,69E-03	7,50E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,77E-04	4,38E-04	2,76E-04	3,91E-03
Ecotoxicity (freshwater)	CTUe	1,14E+00	3,53E-01	8,30E+01	8,45E+01	4,83E-01	7,87E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	5,42E-02	2,37E+00	2,04E+00	-2,17E+00
Human toxicity, cancer	CTUh	4,10E-11	2,84E-11	1,13E-09	1,20E-09	4,46E-11	4,97E-10	ND	ND	ND	ND	ND	ND	ND	0,00E+00	4,15E-12	1,02E-10	5,35E-11	-2,73E-10
Human tox. non-cancer	CTUh	8,29E-10	1,62E-09	2,72E-08	2,96E-08	2,31E-09	1,89E-09	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,14E-10	3,56E-09	2,34E-09	-5,89E-09
SQP ⁷⁾	-	8,81E-01	2,52E+00	6,30E+01	6,64E+01	2,19E+00	3,34E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,05E-01	6,84E-02	1,78E-01	-4,08E+01

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	8,21E-02	3,42E-02	9,96E+00	1,01E+01	6,36E-02	-8,90E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	4,70E-03	9,82E-03	5,81E-03	-7,03E+00
Renew. PER as material	MJ	0,00E+00	0,00E+00	8,72E+00	8,72E+00	0,00E+00	-8,72E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	5,34E+00
Total use of renew. PER	MJ	8,21E-02	3,42E-02	1,87E+01	1,88E+01	6,36E-02	-1,76E+01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	4,70E-03	9,82E-03	5,81E-03	-1,69E+00
Non-re. PER as energy	MJ	-3,77E+01	2,50E+00	5,54E+01	2,02E+01	3,68E+00	-5,46E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,42E-01	-1,79E+01	-1,80E+01	-8,54E+00
Non-re. PER as material	MJ	4,50E+01	0,00E+00	5,77E+00	5,08E+01	0,00E+00	-8,32E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	-2,12E+01	-2,12E+01	3,28E+00
Total use of non-re. PER	MJ	7,30E+00	2,50E+00	6,11E+01	7,09E+01	3,68E+00	-1,38E+01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,42E-01	-3,91E+01	-3,92E+01	-5,26E+00
Secondary materials	kg	9,87E-01	1,06E-03	3,50E-01	1,34E+00	1,69E-03	6,18E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,54E-04	2,30E-04	1,28E-04	3,41E-01
Renew. secondary fuels	MJ	6,53E-06	1,35E-05	1,91E-01	1,91E-01	2,13E-05	4,63E-06	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,96E-06	6,98E-06	3,88E-06	-8,32E-05
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	2,49E-03	3,69E-04	2,62E-02	2,90E-02	4,95E-04	-2,09E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	4,54E-05	1,35E-03	-2,53E-04	-9,87E-04

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	4,32E-03	4,23E-03	3,12E-01	3,21E-01	5,28E-03	1,05E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	5,97E-04	2,05E-02	1,04E-02	-2,68E-01
Non-hazardous waste	kg	6,04E-02	7,83E-02	1,12E+01	1,13E+01	1,11E-01	1,13E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,12E-02	5,54E-01	1,52E+00	-2,49E+00
Radioactive waste	kg	9,10E-07	5,33E-07	1,16E-04	1,18E-04	1,17E-06	1,84E-06	ND	ND	ND	ND	ND	ND	ND	0,00E+00	6,79E-08	1,11E-07	6,96E-08	-1,58E-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	6,00E-02	6,00E-02	0,00E+00	1,40E-11	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for energy rec	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	7,30E-20	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	1,67E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	5,85E+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	7,03E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	2,46E+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	9,68E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	3,39E+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	2,50E-01	1,71E-01	4,13E+00	4,55E+00	2,60E-01	4,56E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,43E-02	1,19E+00	6,17E-01	-2,09E+00
Ozone depletion Pot.	kg CFC ₁₁ e	1,40E-09	2,03E-09	7,42E-08	7,77E-08	4,15E-09	1,95E-09	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,73E-10	4,33E-10	2,54E-10	-8,58E-09
Acidification	kg SO ₂ e	7,93E-04	4,48E-04	1,05E-02	1,18E-02	6,23E-04	4,32E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	6,23E-05	2,15E-04	1,12E-04	-2,19E-03
Eutrophication	kg PO ₄ ³ e	1,14E-04	1,09E-04	1,38E-02	1,40E-02	1,58E-04	1,22E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,52E-05	7,41E-05	6,09E-05	-4,90E-04
POCP (“smog”)	kg C ₂ H ₄ e	1,08E-04	4,00E-05	9,94E-04	1,14E-03	5,93E-05	6,83E-05	ND	ND	ND	ND	ND	ND	ND	0,00E+00	5,58E-06	1,44E-05	1,08E-05	-2,06E-04
ADP-elements	kg Sbe	2,70E-07	4,68E-07	1,66E-05	1,74E-05	8,37E-07	1,42E-06	ND	ND	ND	ND	ND	ND	ND	0,00E+00	7,83E-08	6,05E-08	3,58E-08	-8,11E-06
ADP-fossil	MJ	7,24E+00	2,46E+00	5,76E+01	6,73E+01	3,60E+00	2,01E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,38E-01	2,71E-01	1,74E-01	-8,60E+00

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	2,44E-01	1,72E-01	4,15E+00	4,57E+00	2,62E-01	4,11E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,44E-02	1,19E+00	6,18E-01	-2,10E+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 – A3

Scenario parameter	Value
Electricity data source and quality	Electricity, medium voltage, residual mix, Latvia, Ecoinvent 3.11
Electricity CO2e / kWh	0,69 kg CO2e/kWh
Alternative electricity sources considered	Photovoltaic electricity, 3 kWp slanted-roof multi-Si installation, mounted panel, Latvia, ecoinvent 3.
Electricity CO2e / kWh	0,0777 kg CO2e/kWh

Transport scenario documentation - A4

Scenario parameter	Value
Fuel type, consumption, and vehicle type	EURO 5 lorry (16-32 t, diesel), 0,33 L/km
Average transport distance, km	Lorry 750km
Capacity utilization (including empty return) %	75
Bulk density of transported products	1,83
Volume capacity utilization factor	<1

Installation scenario documentation - A5

Scenario parameter	Value
Energy: type and consumption (MJ or kWh)	Installation of the ventilation mounting clamps (A5) is carried out manually using basic hand tools. The installation process does not require electricity, fuel, or water, and therefore no energy consumption is accounted for in module A5.
Ancillary materials for installation (specified by material) / kg or other units as appropriate	Steel screw: 0,057 kg
Water use / m ³	0 m ³
Other resource use / kg	0 kg
Quantitative description of energy type (regional mix) and consumption during the installation process / kWh or MJ	No energy consumption (manual installation only)
Waste materials on the building site before waste processing, generated by the product's installation (specified by type) / kg	<ul style="list-style-type: none"> · PE 0,145 kg · Wood waste 0,310 kg · Paper waste 0,430 kg

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	<ul style="list-style-type: none"> · Exported electricity 0,757 MJ · Exported thermal energy 1,042 MJ · Polyethylene recycling 0,075kg · Polyethylene incineration with energy recovery: 0,070kg · Polyethylene landfill 0,043kg · Wood recycling (sorting and shredding) 0,099kg · Wood incineration with energy recovery: 0,093kg · Wood landfill: 0,18kg · Paper recycling (sorting): 0,357kg · Paper incineration with energy recovery: 0,034kg · Paper landfill: 0,039kg
Direct emissions to ambient air, soil and water / kg	0 kg

End of life scenario documentation - C1-C4

Scenario parameter	Value
Collection process – kg collected separately	1,057 kg
Collection process – kg collected with mixed waste	0 kg
Recovery process – kg for re-use	0 kg
Recovery process – kg for recycling	0,057 kg
Recovery process – kg for energy recovery	0,75 kg
Disposal (total) – kg for final deposition	0,25kg
Output materials (energy)	<ul style="list-style-type: none"> · Exported electricity: 2,46 MJ · Exported thermal energy: 3,39 MJ
Scenario assumptions e.g. transportation	Separately collected EoL waste is treated with EU-average processes. Waste is transported by EURO 6 truck to treatment/disposal. Typical transport distances applied: 50–250 km depending on route (recycling/incineration/landfill).

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

HaiHa Nguyen, as an authorized verifier acting for EPD Hub Limited

23.06.2026



APPENDIX

Products included in the scope of the EPD

All products are manufactured from the same materials, using the same production technology and at the same manufacturing site, and are therefore declared as a single product group in accordance with EN 15804:2012+A2:2019. Environmental impacts are declared per 1 kg of product for the product stage (A1–A3).

				A1-A3 Product stage		
				Global Warming Potential total kg CO2e	Global Warming Potential fossil kg CO2e	Global Warming Potential biogenic kg CO2e
KZ in 1kg	KZ		clamp plastic, 110x55mm, 2 pcs	4,45	5,41	-0,97
KZ25 in 1kg	KZ25		clamp plastic, 220x55mm, 2 pcs	3,55	4,24	-0,7
KZ29 in 1kg	KZ29		clamp plastic, 220x90mm, 2 pcs	3,67	4,03	-0,37
AZ100 in 1kg	AZ100		clamp plastic, Ø100mm, 2 pcs	2,93	5,32	-2,42
AZ125 in 1kg	AZ125		clamp plastic, Ø125mm, 2 pcs	4,12	5,5	-1,41
AZ150 in 1kg	AZ150		clamp plastic, Ø150mm, 2 pcs	3,32	4,38	-1,07

MIN	4,03	-11,43%
MAX	5,50	20,88%

Data representativeness

The products included in the scope of this EPD are manufactured from the same materials, using identical production technology (injection molding), and at the same manufacturing site. In accordance with EN 15804:2012+A2:2019, they are therefore declared as a single product group. Environmental impacts are reported per declared unit of 1 kg of product for the product stage (A1–A3).

Primary data was collected true direct measurements collected at the manufacturing site, and represents of the actual production processes, technology, and operating conditions. Secondary data where sourced from recognized LCA database, and selected to ensure geographical and technological consistency with the system under study.

Representativeness criteria

Representativeness of the product group is based on the following criteria:

- identical material composition (recycled polystyrene),
- identical manufacturing process (injection molding),
- production at the same manufacturing site.

Under these conditions, environmental impacts scale primarily with material consumption and processing requirements.

Representative, minimum and maximum cases

The following products were identified as representative of the product group:

- Representative – average design of 6 LCA.
- Minimum impact case KZ29 plastic clamp in size 220×90 mm, 2 pcs;
- Maximum impact case AZ100 plastic clamp in size Ø100 mm, 2 pcs.

These products represent the range of environmental performance within the product group, and were modelled using identical datasets, system boundaries, and assumptions.

Similarities and differences affecting GWP (A1–A3)

All product variants share the following similarities:

- same base material (rPS),
- same manufacturing process (injection molding),
- same production site and energy supply,
- identical background datasets and modelling assumptions.

Differences between the products arise from:

- geometry and dimensions,
- packaging material mass distribution and material usage,
- complexity of molding (affecting processing time and energy demand).

These differences influence material consumption and manufacturing energy per unit, which are the main drivers of GWP-fossil in modules A1-A3.

The variation in environmental impacts within the product group ranges from approximately **-11% to 21%** relative to the group average.