ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

Pre-insulated spiral air ducts IF19-SD
SIA Eiroplasts

EPD HUB, HUB-7518
Published on 14.09.2026, last updated on 14.09.2026, valid until 13.09.2031

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

GENERAL INFORMATION

MANUFACTURER

Manufacturer	SIA Eiroplasts
Address	32/6 Granīta Street, Acone, LV-2119, Latvia
Contact details	europlast@europlast.lv
Website	http://www.europlast.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	HUB-7288
Scope of the EPD	Cradle to gate with options, A4-A5, and modules C1-C4, D
EPD author	Laura Šalme
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal verification ☑ 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	Pre-insulated spiral air ducts IF19-SD
Additional labels	IF19-SD
Product reference	-
Place(s) of raw material origin	EU
Place of production	Latvia, Acone
Place(s) of installation and use	Central & Northern Europe
Period for data	01/01/2025 - 31/12/2025
Averaging in EPD	Multiple products
Variation in GWP-fossil for A1-A3 (%)	+2,92% / -1,12%
GTIN (Global Trade Item Number)	-
NOBB (Norwegian Building Product Database)	-
A1-A3 Specific data (%)	66,7

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 kg of pre-insulated spiral metal air duct (IF-SD). Associated packaging is included in the life cycle assessment.
Declared unit mass	1 kg
Mass of packaging	0,305 kg
GWP-fossil, A1-A3 ($kgCO_2e$)	3,53
GWP-total, A1-A3 ($kgCO_2e$)	3,28
Secondary material, inputs (%)	10,3
Total energy use, A1-A3 (kWh)	12,6
Net freshwater use, A1-A3 (m^3)	0,02

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

EUROPLAST are a producer of ventilation systems and elements since 1998. Our clients can count on high quality, safe and functional products, unique design solutions and great conditions of cooperation.

PRODUCT DESCRIPTION

Insulated spiral metal air ducts IF-SD from EUROPLAST are factory-insulated ventilation ducts designed for use in mechanical ventilation, air conditioning and heat recovery systems. The product consists of a spiral-wound galvanized steel duct with factory-applied flexible elastomeric foam (FEF) insulation. The integrated insulation improves thermal performance, reduces the risk of condensation, enhances acoustic performance and reduces installation time compared with separately insulated duct systems. The product complies with airtightness class D requirements.

The products are intended for installation in:
- residential ventilation systems,
- commercial and industrial HVAC systems,
- heat recovery installations,
- energy-efficient building ventilation systems.

The ducts are suitable for supply and exhaust air distribution where thermal insulation and condensation control are required.

Products included in the EPD
This EPD represents a product group consisting of eight insulated spiral duct configurations:
- IF19-SD100 -> diameter Ø100 mm, length 1 m
- IF19-SD100 -> diameter Ø100 mm, length 2 m
- IF19-SD125 -> diameter Ø125 mm, length 1 m
- IF19-SD125 ->diameter Ø125 mm, length 2 m
- IF19-SD160 -> diameter Ø160 mm, length 1 m
- IF19-SD160 ->diameter Ø160 mm, length 2 m
- IF19-SD200 -> diameter Ø200 mm, length 1 m
- IF19-SD200 -> diameter Ø200 mm, length 2 m

Product range and technical characteristics
- nominal diameters: Ø100, Ø125, Ø160 and Ø200 mm,
- insulation thickness: 19 mm,
- standard lengths: 1 m and 2 m,
- color: black.

Main materials
- galvanized steel -> structural spiral duct body,
- flexible elastomeric foam (FEF) -> thermal insulation,
- adhesive system -> bonding of the insulation.

Range of functions
All product configurations have the same principal function: the conveyance and distribution of supply or exhaust air in ventilation and HVAC systems while providing integrated thermal insulation and condensation control. The range of available diameters enables the ducts to accommodate different airflow requirements and ventilation system designs, while the 1 m and 2 m lengths provide flexibility for different installation layouts.
Similarities and differences within the product group
All eight configurations have the same intended application, construction principle and principal function and are manufactured using the same main types of materials. They consist of a galvanized spiral steel duct with factory-applied 19 mm flexible elastomeric foam insulation and an adhesive system for insulation bonding.
The main differences between the configurations are the nominal duct

diameter and product length. These dimensional differences result in different quantities and relative proportions of galvanized steel, insulation and adhesive per individual duct configuration.
The differences in dimensions and associated material quantities are the main characteristics responsible for variations in environmental impacts among the products included in the group. In particular, changes in duct diameter and length affect the amount and proportion of the constituent materials required for each product configuration and therefore influence the environmental impacts associated with raw material supply, manufacturing and other life-cycle stages.
Despite these dimensional and material-quantity variations, all configurations provide the same principal product function and belong to the same insulated spiral duct product family.

Installation
The ducts are delivered with factory-applied insulation. Installation requires standard mechanical joining methods for spiral ducts. No additional on-site insulation is required.
The environmental impacts presented in this EPD are expressed per declared unit of 1 kg of insulated spiral duct.

Further information can be found at: http://www.europlast.lv

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	78,9	EU, Asia
Minerals	0	-
Fossil materials	21,1	EU, Asia
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	0,1280

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 kg of pre-insulated spiral metal air duct (IF-SD). Associated packaging is included in the life cycle assessment.
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.
The IF-SD pre-insulated spiral air ducts are manufactured by applying elastomeric rubber foam insulation to galvanized spiral air ducts produced at the same manufacturing facility. The production process includes adhesive application, insulation wrapping, sealing of the longitudinal joint with self-adhesive elastomeric tape, and final quality inspection to ensure compliance with product specifications. Small quantities of solvent-based adhesive, acetone, and lubricating oil are used during manufacturing and equipment maintenance. Electricity from the grid and on-site photovoltaic generation is used to operate the production and packaging equipment. During production, steel off-cuts are collected and sent for recycling, while rubber waste is treated through appropriate waste management routes. The finished products are packaged in polyethylene film, corrugated cardboard boxes, and placed on wooden pallets. Labels and sealing tapes are applied before the products are prepared for distribution.

TRANSPORT AND INSTALLATION (A4-A5)

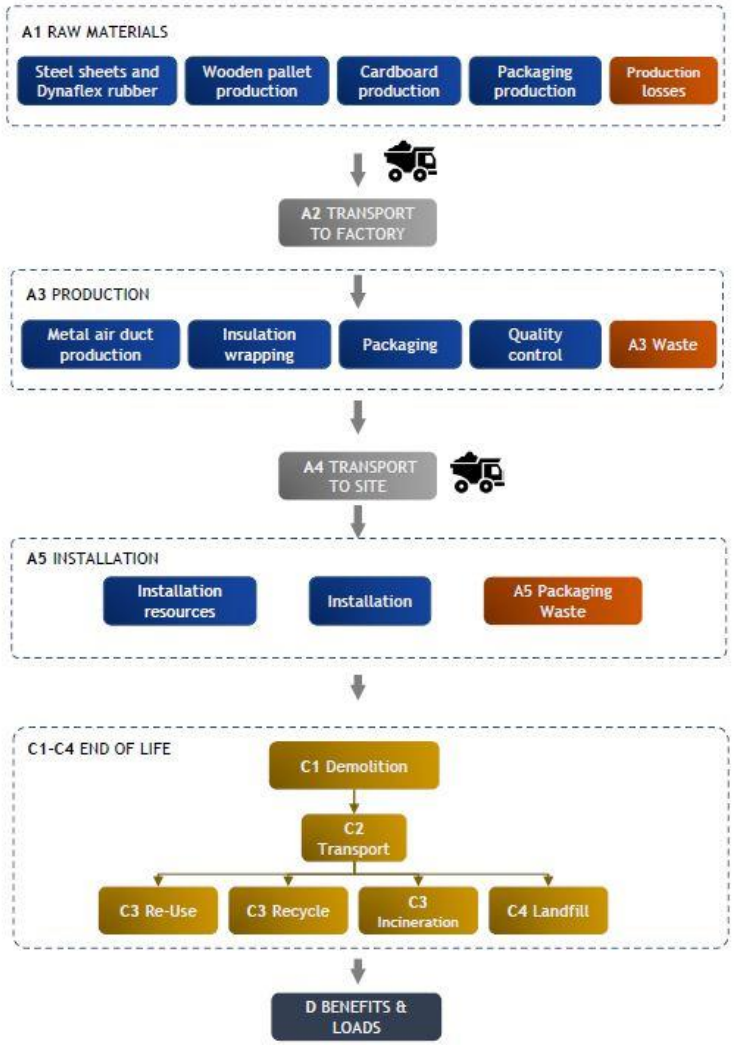
Transportation impacts occurred from final products delivery to construction site (A4) cover fuel direct exhaust emissions, environmental impacts of fuel production, as well as related infrastructure emissions.

The products are transported from the manufacturing facility to the construction site using representative transport scenarios. Installation is carried out manually using standard installation practices for ventilation duct systems. A small amount of electricity is consumed by portable power tools during installation. Steel screws, EPDM sealing tape or gasket material, and a proportional share of steel hangers or support brackets are used as installation materials. Packaging waste generated during installation is collected separately and managed through appropriate recycling and waste treatment routes in accordance with local waste management practices.

PRODUCT END OF LIFE (C1-C4, D)

At the end of its Reference Service Life, the IF-SD pre-insulated spiral air ducts are manually dismantled and transported to waste treatment facilities. Steel components are separated and primarily sent for recycling, while the remaining steel fraction is disposed of in landfill. Elastomeric rubber insulation is treated through a combination of energy recovery and landfill in accordance with representative European waste management practices. The potential environmental benefits associated with the recycling of steel and packaging materials, together with energy recovery from combustible waste fractions, are reported separately in Module D through the substitution of virgin materials and conventional energy production

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 asdnd 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	No allocation
Ancillary materials	Physical Properties
Manufacturing energy and waste	No allocation

The reference service life (RSL), where applicable, is considered an uncertain modelling parameter. The actual service life of the pre-insulated spiral air duct depends on installation quality, operating conditions, environmental exposure, and maintenance practices within the ventilation system.

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, %	+2,92% / -1,12%

Based on the A1-A3 results, the GWP-fossil values of the assessed product configurations range from 3.43 to 3.57 kg CO_2e/kg. The minimum value is observed for IF19-SD160-1 (1 m) at 3.43 kg CO_2e/kg, while the maximum value is observed for IF19-SD200-2 (2 m) at 3.57 kg CO_2e/kg.

The small variation in GWP-fossil between the different product configurations is mainly attributable to differences in the amount of

packaging required per kilogram of product. As the configurations differ in dimensions and length, the packaging-to-product mass ratio varies accordingly. This results in slightly different contributions from packaging materials to the A1-A3 environmental impacts. Overall, the variation is limited and the assessed configurations show comparable GWP-fossil performance.

This EPD represents factory-insulated spiral galvanized steel air ducts manufactured at a single production facility located in Acone, Salaspils municipality, Latvia.

The product group includes spiral air ducts with the following characteristics:
• galvanized steel duct body,
• factory-applied flexible elastomeric foam (FEF) insulation,
• insulation thickness: 19 mm,
• airtightness class: D.

The declared unit of 1 kg allows coverage of multiple duct diameters and lengths within the same construction type, as environmental impacts scale proportionally with material mass. All products included in this EPD share the same material composition, insulation thickness, and manufacturing technology. Production data represent 100% of the insulated spiral duct production at the Acone facility for the reference year 2025. No sampling or extrapolation of additional sites was performed. The geographical scope of the EPD is Europe. Upstream processes, transport, and end-of-life scenarios are modelled using representative European average datasets where applicable.

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‘.

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_2e	2,98E+00	2,65E-01	3,59E-02	3,28E+00	2,15E-01	6,22E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,84E-02	3,10E-02	5,35E-01	-3,51E+00
GWP – fossil	kg CO_2e	2,98E+00	2,65E-01	2,80E-01	3,53E+00	2,15E-01	3,71E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,84E-02	3,09E-02	4,51E-01	-3,29E+00
GWP – biogenic	kg CO_2e	1,40E-03	1,34E-04	-2,51E-01	-2,49E-01	4,77E-05	2,51E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	4,22E-06	5,42E-05	8,39E-02	-2,19E-01
GWP – LULUC	kg CO_2e	5,92E-04	9,37E-05	6,41E-03	7,10E-03	8,78E-05	6,24E-05	ND	ND	ND	ND	ND	ND	ND	0,00E+00	8,18E-06	5,14E-05	7,38E-06	-2,94E-03
Ozone depletion pot.	kg $CFC\text{-}_{11}$e	7,48E-06	5,97E-09	7,55E-06	1,50E-05	4,17E-09	4,22E-09	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,67E-10	3,09E-10	2,34E-10	-2,34E-08
Acidification potential	mol H^+e	8,64E-03	8,60E-04	1,18E-03	1,07E-02	6,47E-04	9,30E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	6,39E-05	2,64E-04	1,14E-04	-1,92E-02
EP-freshwater[2)]	kg Pe	8,52E-05	1,91E-05	1,19E-04	2,23E-04	1,67E-05	1,27E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,99E-06	1,75E-05	1,15E-05	-3,47E-03
EP-marine	kg Ne	1,88E-03	3,02E-04	5,07E-04	2,69E-03	1,52E-04	9,72E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,11E-05	5,72E-05	2,26E-04	-3,58E-03
EP-terrestrial	mol Ne	2,02E-02	3,28E-03	3,68E-03	2,72E-02	1,66E-03	2,26E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,28E-04	6,26E-04	4,26E-04	-3,73E-02
POCP ("smog")[3)]	kg NMVOCe	6,09E-03	1,41E-03	1,66E-03	9,17E-03	8,45E-04	8,50E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	9,37E-05	1,85E-04	1,61E-04	-1,20E-02
ADP-minerals & metals[4)]	kg Sbe	1,61E-04	7,69E-07	1,35E-06	1,63E-04	9,17E-07	4,07E-06	ND	ND	ND	ND	ND	ND	ND	0,00E+00	5,26E-08	1,15E-06	7,76E-08	-9,68E-05
ADP-fossil resources	MJ	3,72E+01	3,86E+00	4,78E+00	4,58E+01	2,99E+00	3,99E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,62E-01	4,15E-01	1,70E-01	-3,74E+01
Water use[5)]	m^3e depr.	3,45E+00	2,22E-02	1,55E-01	3,63E+00	1,67E-02	1,10E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,53E-03	7,66E-03	2,29E-02	-1,32E+00

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.

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	1,98E+00	5,98E-02	7,36E-01	2,78E+00	6,95E-02	-3,84E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,65E-03	6,67E-02	-7,33E-01	-1,18E+01
Renew. PER as material	MJ	0,00E+00	0,00E+00	3,98E+00	3,98E+00	0,00E+00	-3,97E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,20E+00
Total use of renew. PER	MJ	1,98E+00	5,98E-02	4,71E+00	6,75E+00	6,95E-02	-7,81E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,65E-03	6,67E-02	-7,33E-01	-9,64E+00
Non-re. PER as energy	MJ	3,49E+01	3,86E+00	3,63E+00	4,24E+01	2,99E+00	2,85E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,62E-01	4,15E-01	-3,87E+00	-3,74E+01
Non-re. PER as material	MJ	3,39E+00	0,00E+00	9,16E-01	4,31E+00	0,00E+00	-9,98E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	-2,31E+00	-9,88E-01	5,53E-01
Total use of non-re. PER	MJ	3,83E+01	3,86E+00	4,55E+00	4,67E+01	2,99E+00	1,86E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,62E-01	-1,89E+00	-4,85E+00	-3,68E+01
Secondary materials	kg	1,03E-01	1,64E-03	1,54E-01	2,58E-01	1,61E-03	3,48E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,10E-04	2,82E-04	8,95E-05	4,97E-01
Renew. secondary fuels	MJ	1,19E-03	2,16E-05	8,45E-02	8,57E-02	1,72E-05	2,14E-06	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,43E-06	1,22E-05	2,37E-06	-2,30E-03
Non-ren. secondary fuels	MJ	8,31E-22	0,00E+00	0,00E+00	8,31E-22	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	1,22E-02	5,11E-04	4,30E-03	1,70E-02	4,63E-04	4,23E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,76E-05	2,03E-04	4,48E-04	-3,08E-02

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	8,11E-02	2,18E-02	1,71E-02	1,20E-01	4,64E-03	1,33E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,68E-03	2,82E-03	1,64E-01	-3,33E+00
Non-hazardous waste	kg	5,24E-01	4,54E-01	7,81E-01	1,76E+00	1,10E-01	4,05E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,31E-02	8,55E-02	2,47E-01	-1,95E+01
Radioactive waste	kg	6,03E-04	9,96E-07	7,20E-06	6,11E-04	1,34E-06	4,03E-06	ND	ND	ND	ND	ND	ND	ND	0,00E+00	5,26E-08	9,78E-07	1,68E-07	-3,54E-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	2,34E-02	2,34E-02	0,00E+00	1,74E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	7,06E-01	0,00E+00	0,00E+00
Materials for energy rec	kg	0,00E+00	0,00E+00	5,76E-03	5,76E-03	0,00E+00	1,45E-19	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	4,50E-01	ND	ND	ND	ND	ND	ND	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	1,89E-01	ND	ND	ND	ND	ND	ND	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	2,61E-01	ND	ND	ND	ND	ND	ND	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_2e	2,90E+00	2,64E-01	2,85E-01	3,45E+00	2,14E-01	3,91E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,83E-02	3,09E-02	5,21E-01	-3,28E+00
Ozone depletion Pot.	kg $CFC_{-11}e$	7,65E-09	4,74E-09	6,01E-09	1,84E-08	3,33E-09	4,26E-09	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,13E-10	2,56E-10	2,02E-10	-1,98E-08
Acidification	kg SO_2e	7,06E-03	6,48E-04	8,85E-04	8,59E-03	5,21E-04	7,56E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	4,88E-05	2,14E-04	8,62E-05	-1,59E-02
Eutrophication	kg PO_4^3e	9,37E-04	1,73E-04	2,89E-03	4,00E-03	1,10E-04	1,12E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,32E-05	2,98E-05	1,78E-04	-2,78E-03
POCP (“smog”)	kg C_2H_4e	5,83E-04	6,07E-05	1,18E-04	7,62E-04	4,43E-05	1,07E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	4,24E-06	1,24E-05	3,08E-05	-9,54E-04
ADP-elements	kg Sbe	1,61E-04	7,51E-07	1,33E-06	1,63E-04	8,92E-07	4,07E-06	ND	ND	ND	ND	ND	ND	ND	0,00E+00	5,12E-08	1,14E-06	3,80E-08	-9,66E-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	2,90E+00	2,64E-01	2,85E-01	3,45E+00	2,14E-01	3,91E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,83E-02	3,09E-02	5,21E-01	-3,28E+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_2e	2,98E+00	2,65E-01	2,86E-01	3,53E+00	2,15E-01	3,71E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,84E-02	3,10E-02	4,51E-01	-3,29E+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	0,0783 kg CO2e/kWh

Transport scenario documentation - A4

Scenario parameter	Value
Fuel type, consumption, and vehicle type	EURO 6 lorry 3.5-7.5 metric ton diesel
Average transport distance, km	350
Fuel type, consumption, and vehicle type	sea, ferry, diesel
Average transport distance, km	50
Capacity utilization (including empty return) %	75
Bulk density of transported products	4,3
Volume capacity utilization factor	<1

Installation at the building site (A5) - Scenario documentation

Scenario parameter	Value
Energy: type and consumption (MJ or kWh)	Installation is carried out using standard portable electric power tools. A small amount of grid electricity is consumed during installation. No additional fuels, water, or process energy are required. • 0.022 kWh
Water use (m^3)	No water is required during the installation of the product under normal installation conditions. • 0 m^3
Ancillary materials: type and mass (kg)	Installation requires small quantities of ancillary materials, including steel screws, EPDM sealing tape or gasket material, and a proportional share of steel hangers or support brackets required for fixing the duct system. • Steel screw: 0,021 kg • Steel hangers or support brackets: 0,14kg • EPDM sealing tape: 0,0022kg
Waste materials: type and mass (kg)	Waste generated during installation consists primarily of packaging materials, including polyethylene film, corrugated cardboard, paper labels, wooden pallets, and minor off-cuts of installation materials. • Wood waste 0,12 kg • PE 0,085 kg •Paper waste 0,104 kg
Waste materials: output routes	Packaging waste is collected separately on the construction site and managed according to

	local waste management practices. Recyclable materials such as cardboard, paper, wood, steel, and plastics are sent for recycling where appropriate, while the remaining waste is treated through energy recovery or disposal in accordance with local regulations.
Direct emissions (kg)	No direct emissions to air, water, or soil are generated during the installation of the product under normal installation conditions.

End of life (C1-C4) - Scenario documentation

Scenario information	Value
Collection process: collected separately (kg)	The product is assumed to be collected separately after dismantling to enable material sorting and appropriate waste treatment. Steel components are separated for recycling, while other material fractions are directed to the applicable recovery or disposal processes. • Steel components recycling: 0,808kg • Steel components landfill: 0,143kg • Waste rubber incineration: 0,15kg
Collection process: Mixed waste (kg)	Non-recoverable material fractions that cannot be separated during dismantling are assumed to be collected with mixed municipal solid waste and treated according to representative European waste management practices. •Landfill: 0,094kg
Recovery: re-use (kg)	0
Recovery: recycling (kg)	0,81
Recovery: energy recovery (kg)	0,29
Disposal (kg)	0,09
Scenario assumptions e.g. transportation (mode, km) & other	The end-of-life scenario assumes transport of dismantled products to representative waste treatment facilities, where the materials are sorted and managed through recycling, energy recovery, or disposal according to European average practices.

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 for EPD Hub Limited 14.09.2026

VERIFIED ISO 14025

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
IF19-SD100-1meter in 1kg	IF19-SD100-1	3,38	3,56	−0,18
IF19-SD100-2 meters in 1kg	IF19-SD100-2	3,36	3,53	−0,18
IF19-SD1125-1 meter in 1kg	IF19-SD125-1	3,33	3,54	−0,2
IF19-SD125-2 meters in 1kg	IF19-SD125-2	3,29	3,49	−0,21
IF19-SD160-1meter in 1kg	IF19-SD160-1	3,09	3,43	−0,34
IF19-SD160-2 meters in 1kg	IF19-SD160-2	3,23	3,55	−0,33
IF19-SD200-1meter in 1kg	IF19-SD200-1	3,26	3,53	−0,28
IF19-SD200-2 meters in 1kg	IF19-SD200-2	3,29	3,57	−0,28
	Average	3,28	3,53	-0,25

MIN	3,43	**2,92%**
MAX	3,56	**-1,12%**

Data representativeness

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,
- identical manufacturing process,
- 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 deign of all LCA.
- Minimum impact case.
- Maximum impact case.

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,
- same manufacturing process,
- same production site and energy supply,
- identical background datasets and modelling assumptions.

Differences between the products arise from:

- size of the product,
- packaging material mass distribution and material usage.