



ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

Metal supply and exhaust air valves DMK / DMKP
SIA Eiroplast



EPD HUB, HUB-7745

Published on 08.10.2026, last updated on 08.10.2026, valid until 07.10.2031

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	
Scope of the EPD	Cradle to gate with options, A4-A5, and modules C1-C4, D
EPD author	Laura Šalme, EIROPPLASTS
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 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	Metal supply and exhaust air valves DMK / DMKP
Additional labels	Metal supply and exhaust air valves DMK / DMKP
Product reference	-
Place(s) of raw material origin	EU
Place of production	Latvia, Acone
Place(s) of installation and use	Europe, primarily Northern Europe and the Baltic States
Period for data	01/01/2025 - 31/12/2025
Averaging in EPD	Multiple products
Variation in GWP-fossil for A1-A3 (%)	+0,8% / -0,8%
GTIN (Global Trade Item Number)	-
NOBB (Norwegian Building Product Database)	-
A1-A3 Specific data (%)	90,1

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 kg of metal exhaust or supply air valve metal. Associated packaging is included in the life cycle assessment.
Declared unit mass	1 kg
Mass of packaging	0,234 kg
GWP-fossil, A1-A3 (kgCO ₂ e)	3,91
GWP-total, A1-A3 (kgCO ₂ e)	3,74
Secondary material, inputs (%)	21,6
Total energy use, A1-A3 (kWh)	12,9
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

EUROPLAST DMK / DMKP metal supply and exhaust air valves are designed for reliable air supply and extraction in residential, commercial and public building ventilation systems. The products feature a modern, sleek design that provides a discreet architectural appearance while supporting efficient airflow distribution. The updated construction combines functional ventilation performance with convenient installation and improved user comfort.

The diffusers are manufactured primarily from polymer-coated galvanized steel, providing high mechanical durability, dimensional stability and corrosion resistance under normal indoor conditions. Compared with the conventional DM / DMP range, the DMK / DMKP products incorporate an updated construction with thicker sound-dampening material and an additional foam element. These features help reduce vibration and sound transmission through the diffuser construction, contributing to improved acoustic comfort during ventilation system operation.

The DMK / DMKP range features a spring-assisted mounting system using metal springs, allowing quick and convenient installation into the ventilation opening. This mounting concept facilitates faster installation while ensuring secure positioning of the diffuser.

This EPD covers the declared DMK and DMKP product variants in nominal sizes 100 and 200. All declared variants have the same principal function, intended application and overall construction concept and are manufactured using comparable principal materials and production processes.

The declared variants differ primarily in product type, nominal dimensions,

product mass and the corresponding quantities of materials and components. These differences in dimensions and mass affect material consumption and are the main factors responsible for variations in environmental impacts among the products covered by the EPD. Despite these differences, all declared variants provide the same principal function of air supply or extraction within mechanical ventilation systems. The DMK / DMKP diffusers are suitable for wall or ceiling installation and can be used for either supply or exhaust air applications, depending on the ventilation system configuration. Their combination of modern design, spring-assisted installation, robust metal construction and additional sound-dampening features distinguishes the DMK / DMKP range from the more conventional DM / DMP diffuser design.

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

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	97,8	EU and China
Minerals	0	
Fossil materials	2,2	EU and China
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	0,0942

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

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 kg of metal exhaust or supply air valve metal. Associated packaging is included in the life cycle assessment.
Mass per declared unit	1 kg
Functional unit	-
Reference service life	50 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	Recycling	Recovery
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction/ demolition	Transport	Waste processing	Disposal	Reuse		

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 The EUROPLAST exhaust and supply ventilation valves are manufactured primarily from cold-rolled and low-carbon steel components. The production process includes steel cutting, forming and preparation of individual components, followed by assembly, application of polyurethane sealing material, powder coating, and final quality inspection to ensure compliance with product specifications.

Electricity from the grid is used for the manufacturing processes, including steel processing, forming, surface finishing and assembly. Manufacturing electricity consumption is allocated to the declared products based on the applicable production data. During production, steel off-cuts and other manufacturing wastes are collected separately and directed to the appropriate recycling or waste treatment routes.

Raw materials are transported from their respective suppliers to the manufacturing facility. Following production, the finished valves are transported by road to the export port, by sea freight to Europe, and subsequently by road to the EUROPLASTS Acone facility in Latvia.

At the EUROPLASTS Acone facility, the finished products undergo final handling and packaging. Electricity from the applicable site electricity supply is used for packaging and handling activities. The products are packed using the applicable polyethylene packaging, corrugated cardboard boxes, wooden pallets, packaging tape, stretch film and labels before being 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. A5 is not in scope. Only packaging waste is accounted for in this module.

The EUROPLAST exhaust and supply ventilation valves are transported from the EUROPLASTS Acone facility to the construction site using representative transport scenarios based on the company's distribution profile.

Installation is carried out manually using standard installation practices for ventilation systems. No electricity, fuel, water, or ancillary installation materials are required during installation. The valves are installed without cutting or modification, and no product losses are assumed during the installation process.

Packaging waste generated during installation, including polyethylene packaging, corrugated cardboard, wooden pallets, packaging tape, stretch film and other applicable packaging materials, is collected separately and managed through appropriate recycling, energy recovery, and disposal routes in accordance with the defined waste management scenario.

PRODUCT USE AND MAINTENANCE (B1-B7)

This stage is not included in the scope.

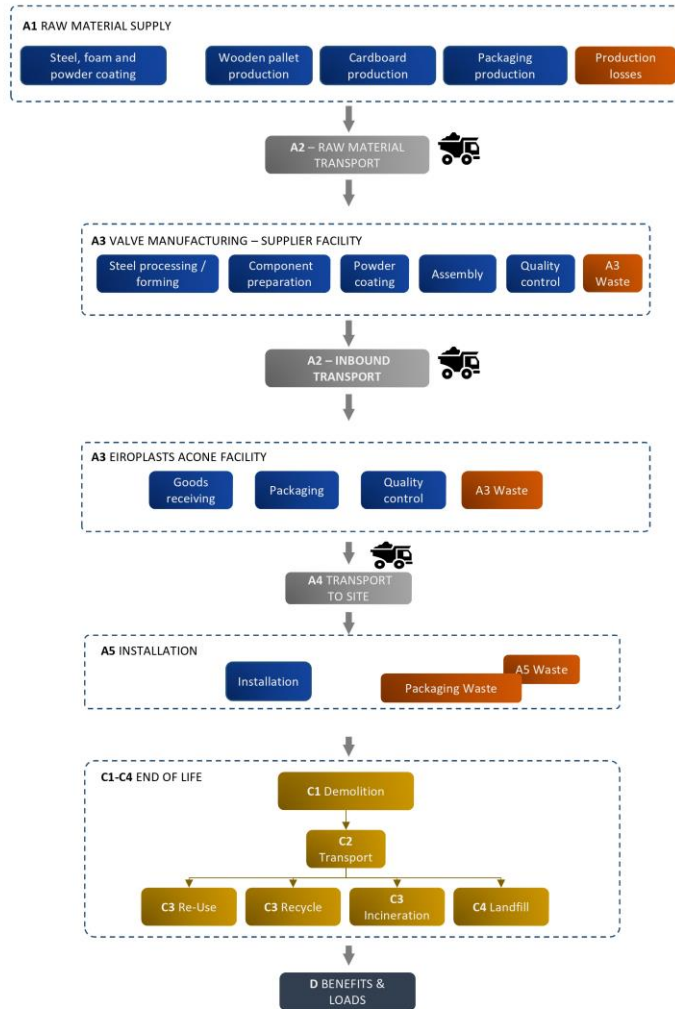
PRODUCT END OF LIFE (C1-C4, D)

At the end of their Reference Service Life, the EUROPLAST exhaust and supply ventilation valves are assumed to be manually removed and transported to appropriate waste treatment facilities. Steel components, which constitute the main material fraction of the product, are separated and primarily directed to material recycling, while the remaining non-recycled steel fraction is disposed of according to the defined end-of-life scenario.

The polyurethane sealing material and other non-metallic fractions are treated through the applicable energy recovery and disposal routes in accordance with representative European waste management practices.

The potential environmental benefits and loads associated with the recovery and recycling of steel, together with energy recovery from applicable combustible waste fractions, are reported separately in Module D. These potential benefits arise from the substitution of primary materials and conventional energy production in accordance with the defined end-of-life scenarios.

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.

No processes within the defined system boundary have been excluded from the LCA. Minor ancillary material flows may be excluded in accordance with the applicable cut-off rules and are documented separately under the cut-off criteria.

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 DMK / DMKP metal supply and exhaust air valves 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 volume
Variation in GWP-fossil for A1-A3, %	+0,8% / -0,8%

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'.

The reference service life (RSL), where applicable, is considered an uncertain modelling parameter. The actual service life of the EUROPLAST exhaust and

supply ventilation valves depends on installation quality, operating conditions, environmental exposure, frequency of use, and maintenance practices within the ventilation system.

Variations in these conditions may result in differences between the declared reference service life and the actual service life achieved in a specific installation.

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	2,89E+00	6,24E-01	2,21E-01	3,74E+00	5,38E-01	2,32E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,67E-02	1,55E-02	3,11E-02	-3,37E+00
GWP – fossil	kg CO ₂ e	2,89E+00	6,24E-01	3,97E-01	3,91E+00	5,37E-01	5,19E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,67E-02	1,55E-02	1,28E-02	-3,19E+00
GWP – biogenic	kg CO ₂ e	1,30E-04	3,89E-04	-1,80E-01	-1,80E-01	1,20E-04	1,80E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,83E-06	-3,29E-05	1,83E-02	-1,74E-01
GWP – LULUC	kg CO ₂ e	-4,73E-04	2,75E-04	4,45E-03	4,25E-03	2,18E-04	8,59E-06	ND	ND	ND	ND	ND	ND	ND	0,00E+00	7,42E-06	1,91E-05	1,06E-06	-2,95E-03
Ozone depletion pot.	kg CFC-11e	2,16E-08	1,19E-08	4,49E-05	4,49E-05	1,05E-08	1,11E-10	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,42E-10	2,08E-10	5,47E-11	-2,32E-08
Acidification potential	mol H ⁺ e	3,73E-03	9,82E-03	1,88E-03	1,54E-02	1,31E-03	4,34E-05	ND	ND	ND	ND	ND	ND	ND	0,00E+00	5,79E-05	1,84E-04	1,51E-05	-1,85E-02
EP-freshwater ²⁾	kg Pe	1,89E-04	4,30E-05	1,34E-04	3,66E-04	4,23E-05	2,13E-06	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,81E-06	9,96E-06	1,27E-06	-3,35E-03
EP-marine	kg Ne	7,07E-04	3,07E-03	7,08E-04	4,48E-03	3,02E-04	4,21E-05	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,92E-05	4,08E-05	4,66E-05	-3,45E-03
EP-terrestrial	mol Ne	7,16E-03	3,38E-02	4,99E-03	4,59E-02	3,27E-03	1,65E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,07E-04	4,61E-04	5,92E-05	-3,59E-02
POCP ("smog") ³⁾	kg NMVOCe	3,08E-03	9,56E-03	1,66E-03	1,43E-02	1,90E-03	5,54E-05	ND	ND	ND	ND	ND	ND	ND	0,00E+00	8,49E-05	1,36E-04	3,02E-05	-1,16E-02
ADP-minerals & metals ⁴⁾	kg Sbe	8,13E-06	2,12E-06	1,34E-06	1,16E-05	2,33E-06	4,43E-08	ND	ND	ND	ND	ND	ND	ND	0,00E+00	4,77E-08	1,10E-06	2,95E-09	-9,35E-05
ADP-fossil resources	MJ	3,09E+01	8,01E+00	6,64E+00	4,55E+01	7,48E+00	9,83E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,38E-01	2,08E-01	4,63E-02	-3,65E+01
Water use ⁵⁾	m ³ e depr.	2,36E-01	3,52E-02	1,62E-01	4,33E-01	4,23E-02	4,01E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,39E-03	3,73E-03	1,33E-04	-1,30E+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	2,73E+00	9,85E-02	8,38E-01	3,66E+00	1,77E-01	-2,89E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,30E-03	3,87E-02	-1,62E-01	-1,12E+01
Renew. PER as material	MJ	6,29E-02	0,00E+00	2,77E+00	2,83E+00	0,00E+00	-2,77E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	-4,27E-02	-1,83E-02	1,75E+00
Total use of renew. PER	MJ	2,79E+00	9,85E-02	3,60E+00	6,49E+00	1,77E-01	-5,66E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,30E-03	-4,02E-03	-1,80E-01	-9,44E+00
Non-re. PER as energy	MJ	2,92E+01	8,01E+00	5,58E+00	4,28E+01	7,48E+00	-1,36E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,38E-01	2,08E-01	-1,15E-01	-3,65E+01
Non-re. PER as material	MJ	2,30E+00	0,00E+00	1,35E+00	3,65E+00	0,00E+00	-1,42E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	-1,56E+00	-6,69E-01	7,12E-01
Total use of non-re. PER	MJ	3,15E+01	8,01E+00	6,93E+00	4,64E+01	7,48E+00	-2,78E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,38E-01	-1,35E+00	-7,84E-01	-3,58E+01
Secondary materials	kg	2,16E-01	3,73E-03	1,03E-01	3,23E-01	4,05E-03	1,43E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	9,95E-05	2,53E-04	1,19E-05	4,71E-01
Renew. secondary fuels	MJ	9,11E-04	2,20E-05	5,96E-02	6,05E-02	4,37E-05	1,11E-06	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,30E-06	1,18E-05	2,35E-07	-2,02E-03
Non-ren. secondary fuels	MJ	5,77E-02	0,00E+00	0,00E+00	5,77E-02	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	1,23E-02	8,23E-04	8,34E-03	2,15E-02	1,17E-03	-1,62E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,41E-05	1,10E-04	4,68E-05	-3,00E-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	1,13E-01	2,56E-02	4,01E-02	1,79E-01	1,17E-02	1,37E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,52E-03	1,36E-03	5,42E-05	-3,21E+00
Non-hazardous waste	kg	2,23E+00	4,56E-01	9,60E-01	3,65E+00	2,79E-01	2,31E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,00E-02	4,90E-02	2,31E-02	-1,88E+01
Radioactive waste	kg	1,10E-05	1,25E-06	1,18E-05	2,41E-05	3,41E-06	1,05E-07	ND	ND	ND	ND	ND	ND	ND	0,00E+00	4,77E-08	4,51E-07	7,03E-09	-3,55E-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	9,57E-05	0,00E+00	3,00E-02	3,01E-02	0,00E+00	1,30E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	6,85E-01	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	0,00E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,13E-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	1,74E-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	2,39E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+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	2,89E+00	6,24E-01	4,01E-01	3,92E+00	5,38E-01	5,19E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,67E-02	1,55E-02	1,28E-02	-3,19E+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 3.11
Electricity CO2e / kWh	0,0783 kg CO2e/kWh
Electricity data source and quality	Electricity, medium voltage, residual mix, China, Ecoinvent 3.11
Electricity CO2e / kWh	0,85 kg CO2e/kWh

Additional transport scenario documentation – A2

Scenario parameter	Value
Fuel type, consumption, and vehicle type	EURO 5 lorry >32 metric ton diesel
Average transport distance, km	110 km
Fuel type, consumption, and vehicle type	sea, container ship with reefer, Heavy fuel oil (HFO)
Average transport distance, km	21000 km

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	897 km
Fuel type, consumption, and vehicle type	sea, ferry, diesel
Average transport distance, km	50 km
Capacity utilization (including empty return) %	75
Bulk density of transported products	280
Volume capacity utilization factor	<1

Installation at the building site (A5) - Scenario documentation

Scenario parameter	Value
Energy: type and consumption (MJ or kWh)	0 kWh
Water use (m³)	0 m³
Ancillary materials: type and mass (kg)	0 kg
Waste materials: type and mass (kg)	• Wood waste 0,13 kg • Plastic waste 0,028kg • Paper waste 0,13 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)	0 kg

End of life (C1-C4) - Scenario documentation

Scenario information	Value
Collection process: collected separately (kg)	• Steel components recycling: 0,68 kg • Steel components landfill: 0,29 kg
Collection process: Mixed waste (kg)	• Municipal waste: 0,021 kg
Recovery: re-use (kg)	0 kg
Recovery: recycling (kg)	0,68 kg
Recovery: energy recovery (kg)	0 kg
Disposal (kg)	0,311 kg
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. 150 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

Haiha Nguyen as an authorized verifier for EPD Hub Limited 08.10.2026



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 CO ₂ e	Global Warming Potential fossil kg CO ₂ e	Global Warming Potential biogenic kg CO ₂ e
DMK 100 in 1kg	3,73	3,93	-0,21
DMK 200 in 1kg	3,64	3,98	-0,34
DMKP 100 in 1kg	3,78	3,93	-0,15
DMKP 200 in 1kg	3,73	3,99	-0,27
Average	3,74	3,91	-0,24
MIN		3,93	0,8%
MAX		3,99	-0,8%

Data representativeness

Primary data were collected through direct measurements and production records from the manufacturing site and represent the actual production processes, technologies, material consumption, energy use and operating conditions during the reference year.

Secondary data were sourced from recognized LCA databases and selected to ensure appropriate geographical, technological and temporal representativeness for the processes included in the system under study.

Representativeness criteria

The representativeness of the product group is based on the following criteria:

- comparable material composition;
- identical or comparable manufacturing processes;
- production at the same manufacturing site;
- use of the same energy supply and production infrastructure; and
- application of the same LCA methodology, system boundaries and background datasets.

Under these conditions, differences in environmental impacts between the product variants are primarily related to differences in product size, material consumption and packaging material requirements.

Representative, minimum and maximum cases

The environmental performance of the product group was assessed using the individual LCA results for the included product variants. The declared result represents the average environmental performance of the product group.

For GWP-fossil in modules A1-A3:

- Representative case: average of the included product variants 3.96 kg CO₂e/kg;
- Minimum impact case: DMK 100 and DMKP 100 -> 3.93 kg CO₂e/kg, approximately -0.8% from the average;
- Maximum impact case: DMKP 200 -> 3.99 kg CO₂e/kg, approximately +0.8% from the average.

All product variants were modelled using the same system boundaries, background datasets, methodological assumptions and calculation approach, ensuring comparability of the results.

The GWP-fossil results therefore range from 3.93 to 3.99 kg CO₂e/kg, corresponding to approximately -0.8% to +0.8% relative to the declared average.

Similarities and differences affecting GWP (A1-A3)

All product variants included in the product group share the following characteristics:

- same principal base material;
- same major manufacturing processes;
- same manufacturing site and energy supply;
- comparable production technology; and
- identical background datasets, system boundaries and modelling assumptions.

The main differences between the product variants are related to product size, material mass distribution, material consumption and packaging requirements. These differences result in only minor variation in the A1–A3 environmental performance.

The limited variation in GWP-fossil, from -0.8% to +0.8% relative to the average, demonstrates that the declared average result is representative of the products included in the product group.