

# ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025 / ISO 21930

Louvres - metal coated steel

**EKOVENT**<sup>®</sup>



**EPD HUB, HUB-0840**

Publishing date 15 November 2023, last updated on 15 November 2023, valid until 15 November 2028.

## GENERAL INFORMATION

### MANUFACTURER

Manufacturer	Ekovent AB
Address	Mejselgatan 7, 235 32 Vellinge
Contact details	info@ekovent.se
Website	https://www.ekovent.se/

### EPD STANDARDS, SCOPE AND VERIFICATION

Program operator	EPD Hub, hub@epdhub.com
Reference standard	EN 15804+A2:2019 and ISO 14025
PCR	EPD Hub Core PCR version 1.0, 1 Feb 2022
Sector	Construction product
Category of EPD	Third party verified EPD
Scope of the EPD	Cradle to gate with options, A4-A5, and modules C1-C4, D
EPD author	Cecilia Cederek
EPD verification	Independent verification of this EPD and data, according to ISO 14025: <input type="checkbox"/> Internal certification <input checked="" type="checkbox"/> External verification
EPD verifier	Magaly González Vázquez, as an authorized verifier acting for EPD Hub Limited

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	Louvres – metal coated steel
Additional labels	EKO-Y, EKO-YV, EKO-YVB
Product reference	-
Place of production	Vellinge, Sweden
Period for data	01/01/2022-31/12/2022
Averaging in EPD	No averaging
Variation in GWP-fossil for A1-A3	-

### ENVIRONMENTAL DATA SUMMARY

Declared unit	1 kg
Declared unit mass	1 kg
GWP-fossil, A1-A3 (kgCO <sub>2</sub> e)	3,72
GWP-total, A1-A3 (kgCO <sub>2</sub> e)	3,69
Secondary material, inputs (%)	11,2
Secondary material, outputs (%)	86,4
Total energy use, A1-A3 (kWh)	15,8
Total water use, A1-A3 (m <sup>3</sup> e)	0,019

## PRODUCT AND MANUFACTURER

### ABOUT THE MANUFACTURER

EKOVENT is one of Sweden's leading companies and has for more than 50 years developed, manufactured, and marketed products for ventilation and fire protection.

### PRODUCT DESCRIPTION

Ekovent offer a wide range of different external louvres for comfort- and industrial ventilation with high water separating performance combined with low pressure drops.

The louvres are made of steel which have been hot dip galvanized in a unique composition including zinc, aluminium, and magnesium to ensure a robust and stable corrosion protection even in tough environments.

EKO-Y/ YV/ YVB is an external louvre designed to be used as air intake and exhaust air grille. The louvre consists of a mounting frame and a grill insert that is fixed with screws in the mounting frame. The louvres can be provided with drip box and drainage pipes.

Further information can be found at <https://www.ekovent.se/>.

### PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass-%	Material origin
Metals	100	Europe
Minerals	-	-
Fossil materials	-	-
Bio-based materials	-	-

### BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	-
Biogenic carbon content in packaging, kg C	0,0078

### FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 kg
Mass per declared unit	1 kg
Functional unit	-
Reference service life	30 Year

### 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	MND	MND	MND	MND	MND	MND	MND	x	x	x	x	x		
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstr./demol.	Transport	Waste processing	Disposal	Reuse	Recovery	Recycling

Modules not declared = MND. Modules not relevant = MNR.

## 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.

The raw material and the ancillary materials are transported to the production facility of Ekovent AB after quality check. In the production facility the material undergoes cutting, punching, bending, welding, and assembling. All these steps take place in the same facility, where EHS (Environment, Health and Safety) is a natural part of the daily work.

The power required to produce the louvres is sourced from 100% wind power, the facility is heated by biogas and all production waste is sent to a recycling company. The finished product is packed in a, for the specific size, appropriate manner, eg. wooden pallet and plastic strips.

## 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. Installation spills and handling of packaging material is considered. Material loss during installation is estimated to be zero.

Transport from production place to user in Sweden (A4)

Type	Distance
Lorry	417 km



**PRODUCT USE AND MAINTENANCE (B1-B7)**

This EPD does not cover the use phase. Air, soil, and water impacts during the use phase have not been studied.

**PRODUCT END OF LIFE (C1-C4, D)**

Energy (0,1kWh) for deconstruction is included in C1. Activities related to steel recycling is included in C3 and a recycling rate of 95% and landfill rate of 5% has been assumed. That is to be seen as the proportion of the material in the product that will be recycled in a subsequent system. Post-consumer scrap in the raw material is also deducted and accounts for 20%. Hence the net flow to be credited in module D is 76%. See below tables for scenarios used in Modules C and D, based on national and EU statistics.



Transport to waste processing scenario (A5/C2)

Type	Distance
Lorry	50 km

End of Life Scenarios (A5, C3, C4, D)

	%
Steel to recycling	95
Steel to landfill	5
Cardboard to recycling	79
Cardboard to incineration	21
Plastic to recycling	47
Plastic to incineration	51
Plastic to landfill	2
Wooden pallet to reuse	50
Wooden pallet to recycling	50



## 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.

### 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	Allocated by mass or volume
Packaging materials	No allocation
Ancillary materials	Allocated by mass or volume
Manufacturing energy and waste	Allocated by mass or volume

### AVERAGES AND VARIABILITY

Type of average	No averaging
Averaging method	Not applicable
Variation in GWP-fossil for A1-A3	-

This EPD is product and factory specific and does not contain average calculations.

### LCA SOFTWARE AND BIBLIOGRAPHY

This EPD has been created using One Click LCA EPD Generator. The LCA and EPD have been prepared according to the reference standards and ISO 14040/14044. Specific data from Lindab Steel and Ejot have been used to represent the raw material. For other inputs Ecoinvent v3.8 and One Click LCA databases were used as sources of environmental data.

# ENVIRONMENTAL IMPACT DATA

## CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP – total <sup>1)</sup>	kg CO <sub>2</sub> e	3,57E+00	1,07E-02	1,11E-01	3,69E+00	4,64E-02	4,62E-02	MND	MND	MND	MND	MND	MND	MND	4,95E-03	4,37E-03	3,01E-02	7,54E-04	-1,25E+00
GWP – fossil	kg CO <sub>2</sub> e	3,58E+00	1,07E-02	1,31E-01	3,72E+00	4,64E-02	1,68E-02	MND	MND	MND	MND	MND	MND	MND	4,63E-03	4,37E-03	2,08E-02	2,63E-04	-1,25E+00
GWP – biogenic	kg CO <sub>2</sub> e	-1,26E-02	0,00E+00	-2,61E-02	-3,87E-02	0,00E+00	2,90E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	9,32E-03	4,90E-04	0,00E+00
GWP – LULUC	kg CO <sub>2</sub> e	4,80E-04	4,02E-06	5,75E-03	6,23E-03	1,74E-05	3,28E-04	MND	MND	MND	MND	MND	MND	MND	3,25E-04	1,64E-06	2,73E-05	2,49E-07	-3,86E-04
Ozone depletion pot.	kg CFC-11e	1,54E-08	2,66E-09	8,01E-09	2,60E-08	1,16E-08	6,03E-10	MND	MND	MND	MND	MND	MND	MND	2,26E-10	1,08E-09	2,57E-09	1,07E-10	-5,18E-08
Acidification potential	mol H <sup>+</sup> e	7,64E-03	3,41E-05	7,32E-04	8,41E-03	1,48E-04	4,64E-05	MND	MND	MND	MND	MND	MND	MND	3,23E-05	1,42E-05	2,64E-04	2,48E-06	-5,22E-03
EP-freshwater <sup>2)</sup>	kg Pe	0,00E+00	7,65E-08	5,94E-06	6,01E-06	3,31E-07	3,87E-07	MND	MND	MND	MND	MND	MND	MND	2,52E-07	3,15E-08	1,12E-06	2,76E-09	-5,23E-05
EP-marine	kg Ne	1,85E-03	7,52E-06	1,64E-04	2,02E-03	3,26E-05	9,01E-06	MND	MND	MND	MND	MND	MND	MND	5,52E-06	3,21E-06	5,58E-05	8,57E-07	-1,06E-03
EP-terrestrial	mol Ne	1,97E-02	8,34E-05	1,91E-03	2,17E-02	3,62E-04	1,07E-04	MND	MND	MND	MND	MND	MND	MND	6,94E-05	3,56E-05	6,45E-04	9,43E-06	-1,24E-02
POCP ("smog") <sup>3)</sup>	kg NMVOCe	6,31E-03	3,28E-05	5,40E-04	6,88E-03	1,42E-04	2,76E-05	MND	MND	MND	MND	MND	MND	MND	1,64E-05	1,37E-05	1,77E-04	2,74E-06	-6,31E-03
ADP-minerals & metals <sup>4)</sup>	kg Sbe	7,27E-05	2,64E-08	2,92E-06	7,57E-05	1,14E-07	3,28E-07	MND	MND	MND	MND	MND	MND	MND	3,17E-07	1,07E-08	2,80E-06	6,05E-10	-2,34E-05
ADP-fossil resources	MJ	3,12E+01	1,71E-01	1,19E+01	4,33E+01	7,41E-01	6,73E-01	MND	MND	MND	MND	MND	MND	MND	6,27E-01	6,95E-02	2,82E-01	7,22E-03	-1,15E+01
Water use <sup>5)</sup>	m <sup>3</sup> e depr.	2,71E-01	7,88E-04	4,48E-01	7,20E-01	3,42E-03	2,51E-02	MND	MND	MND	MND	MND	MND	MND	2,40E-02	3,20E-04	5,47E-03	2,29E-05	-2,47E-01

1) GWP = Global Warming Potential; 2) EP = Eutrophication potential. Required characterisation method and data are in kg P-eq. Multiply by 3,07 to get PO4e; 3) POCP = Photochemical ozone formation; 4) ADP = Abiotic depletion potential; 5) EN 15804+A2 disclaimer for Abiotic depletion and Water use and optional indicators except Particulate matter and Ionizing radiation, human health. The results of these environmental impact indicators shall be used with care as the uncertainties on these results are high or as there is limited experience with the indicator.



**ADDITIONAL (OPTIONAL) ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF**

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	0,00E+00	1,23E-09	1,13E-08	1,26E-08	5,38E-09	6,87E-10	MND	MND	MND	MND	MND	MND	MND	3,84E-10	5,07E-10	3,45E-09	4,99E-11	-8,43E-08
Ionizing radiation <sup>6)</sup>	kBq U235e	0,00E+00	8,79E-04	7,84E-01	7,85E-01	3,82E-03	4,56E-02	MND	MND	MND	MND	MND	MND	MND	4,49E-02	3,57E-04	3,15E-03	3,27E-05	3,25E-02
Ecotoxicity (freshwater)	CTUe	0,00E+00	1,42E-01	5,26E+00	5,40E+00	6,16E-01	3,60E-01	MND	MND	MND	MND	MND	MND	MND	3,10E-01	5,81E-02	1,28E+00	4,71E-03	-4,41E+01
Human toxicity, cancer	CTUh	0,00E+00	3,70E-12	2,78E-10	2,81E-10	1,60E-11	1,33E-11	MND	MND	MND	MND	MND	MND	MND	1,04E-11	1,51E-12	3,91E-11	1,18E-13	1,00E-08
Human tox. non-cancer	CTUh	0,00E+00	1,44E-10	3,57E-09	3,71E-09	6,27E-10	2,98E-10	MND	MND	MND	MND	MND	MND	MND	2,44E-10	5,90E-11	1,75E-09	3,08E-12	-2,96E-08
SQP7)	-	0,00E+00	1,97E-01	4,04E+00	4,24E+00	8,63E-01	1,76E-01	MND	MND	MND	MND	MND	MND	MND	1,47E-01	8,10E-02	5,67E-01	1,54E-02	-2,07E+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 <sup>8)</sup>	MJ	1,66E+00	2,21E-03	1,16E+01	1,33E+01	9,60E-03	2,65E-01	MND	MND	MND	MND	MND	MND	MND	2,60E-01	8,94E-04	5,00E-02	6,27E-05	-2,13E+00
Renew. PER as material	MJ	2,45E-01	0,00E+00	2,24E-01	4,69E-01	0,00E+00	-2,77E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	-1,82E-01	-9,60E-03	-1,78E+00
Total use of renew. PER	MJ	1,90E+00	2,21E-03	1,19E+01	1,38E+01	9,60E-03	-1,22E-02	MND	MND	MND	MND	MND	MND	MND	2,60E-01	8,94E-04	-1,32E-01	-9,54E-03	-3,90E+00
Non-re. PER as energy	MJ	3,17E+01	1,71E-01	1,16E+01	4,34E+01	7,41E-01	6,71E-01	MND	MND	MND	MND	MND	MND	MND	6,25E-01	6,95E-02	2,82E-01	7,22E-03	-1,12E+01
Non-re. PER as material	MJ	1,33E-02	0,00E+00	2,82E-01	2,95E-01	0,00E+00	-2,85E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	-9,76E-03	-5,14E-04	-3,57E-01
Total use of non-re. PER	MJ	3,17E+01	1,71E-01	1,19E+01	4,37E+01	7,41E-01	3,85E-01	MND	MND	MND	MND	MND	MND	MND	6,25E-01	6,95E-02	2,72E-01	6,71E-03	-1,15E+01
Secondary materials	kg	1,12E-01	4,83E-05	6,26E-03	1,18E-01	2,09E-04	8,41E-05	MND	MND	MND	MND	MND	MND	MND	5,66E-05	1,96E-05	3,14E-04	1,52E-06	6,99E-01
Renew. secondary fuels	MJ	0,00E+00	4,28E-07	2,54E-04	2,54E-04	1,84E-06	3,98E-07	MND	MND	MND	MND	MND	MND	MND	2,35E-07	1,74E-07	1,63E-05	3,96E-08	-6,09E-02
Non-ren. secondary fuels	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m <sup>3</sup>	7,75E-03	2,26E-05	1,12E-02	1,90E-02	9,83E-05	6,30E-04	MND	MND	MND	MND	MND	MND	MND	6,05E-04	9,21E-06	1,65E-04	7,90E-06	-3,49E-03

8) PER = Primary energy resources.

### END OF LIFE – WASTE

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Hazardous waste	kg	4,16E-03	1,83E-04	1,69E-02	2,12E-02	7,94E-04	6,86E-04	MND	MND	MND	MND	MND	MND	MND	5,22E-04	7,55E-05	1,92E-03	0,00E+00	-4,07E-01
Non-hazardous waste	kg	1,23E-01	3,19E-03	2,40E-01	3,67E-01	1,38E-02	2,34E-02	MND	MND	MND	MND	MND	MND	MND	1,41E-02	1,31E-03	6,12E-02	5,00E-02	-1,93E+00
Radioactive waste	kg	2,29E-04	1,18E-06	1,69E-04	3,99E-04	5,11E-06	9,93E-06	MND	MND	MND	MND	MND	MND	MND	9,62E-06	4,79E-07	1,65E-06	0,00E+00	-3,79E-07

### END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Components for re-use	kg	5,42E-06	0,00E+00	0,00E+00	5,42E-06	0,00E+00	1,33E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	3,31E-02	0,00E+00	2,90E-01	3,23E-01	0,00E+00	8,00E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	9,50E-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	MND	MND	MND	MND	MND	MND	MND	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	1,08E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

## VERIFICATION STATEMENT

### VERIFICATION PROCESS FOR THIS EPD

This EPD has been verified in accordance with ISO 14025 by an independent, third-party verifier by reviewing results, documents and compliancy with reference standard, ISO 14025 and ISO 14040/14044, following the process and checklists of the program operator for:

- This Environmental Product Declaration
- The Life-Cycle Assessment used in this EPD
- The digital background data for this EPD

Why does verification transparency matter? Read more online

This EPD has been generated by One Click LCA EPD generator, which has been verified and approved by the EPD Hub.

### THIRD-PARTY VERIFICATION STATEMENT

I hereby confirm that, following detailed examination, I have not established any relevant deviations by the studied Environmental Product Declaration (EPD), its LCA and project report, in terms of the data collected and used in the LCA calculations, the way the LCA-based calculations have been carried out, the presentation of environmental data in the EPD, and other additional environmental information, as present with respect to the procedural and methodological requirements in ISO 14025:2010 and reference standard.

I confirm that the company-specific data has been examined as regards plausibility and consistency; the declaration owner is responsible for its factual integrity and legal compliance.

I confirm that I have sufficient knowledge and experience of construction products, this specific product category, the construction industry, relevant standards, and the geographical area of the EPD to carry out this verification.

I confirm my independence in my role as verifier; I have not been involved in the execution of the LCA or in the development of the declaration and have no conflicts of interest regarding this verification.

Magaly González Vázquez, as an authorized verifier acting for EPD Hub Limited  
15.11.2023

