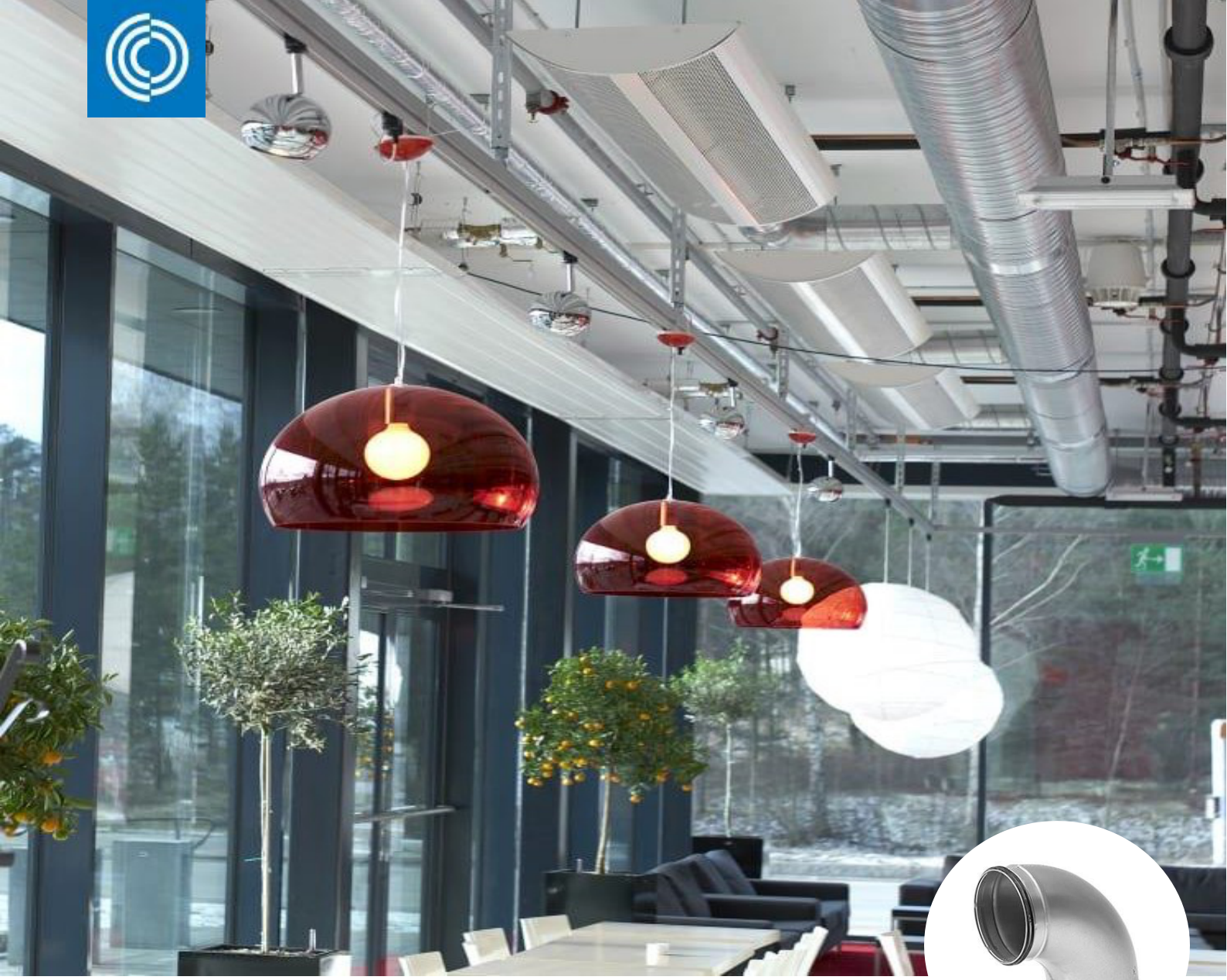


ENVIRONMENTAL PRODUCT DECLARATION

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

Lindab safe fittings
Lindab Ventilation AB

EPD Registration number: HUB-0837
Version: 1.0
Publication date: 10 November 2023
Valid until: 22 October 2024
Last updated date: 10 November 2023

GENERAL INFORMATION

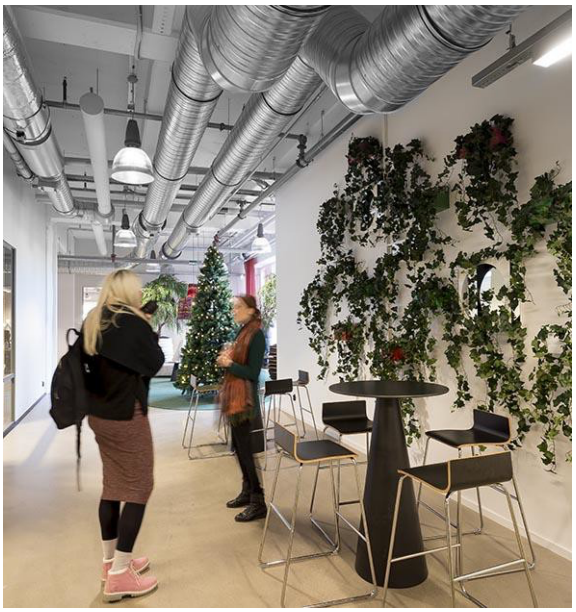
MANUFACTURER

Manufacturer	Lindab Ventilation AB
Address	Stålhögavägen 117, 269 82 Båstad, Sweden
Contact details	kerstin.bergstrom@lindab.com
Website	https://www.lindab.com

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	Kerstin Bergström
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal certification ☑ 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	Safe fittings
Additional labels	See appendix A
Place of production	Lindab s.r.o., Na Hurce 1081/6, Prague, Czech Republic Lindab Ventilation AB, Stålhögavägen 115, Grevie (Båstad)
Period for data	Calendar year 2022
Averaging in EPD	Multiple factories
Variation in GWP-fossil for A1-A3	Between manufacturing sites +/- 13% Between articles <10 %

More information on page 7.

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 kg of product
Declared unit mass	1 kg
GWP-fossil, A1-A3 (kgCO2e)	3,41
GWP-total, A1-A3 (kgCO2e)	3,17
Secondary material, inputs (%)	5.76
Secondary material, outputs (%)	95.3
Total energy use, A1-A3 (kWh)	12.7
Net fresh water use, A1-A3 (m3)	0.01

MANUFACTURER

ABOUT LINDAB

Lindab is a leading ventilation company in Europe, offering solutions for energy efficient ventilation and a healthy indoor climate. The products are characterised by high quality, ease of installation and environmental thinking. In northern Europe, Lindab also offers an extensive range of roof, wall and rainwater systems.

FOR A BETTER CLIMATE

We want to create a better climate. Most of us spend a majority of our time indoors. The air we breathe, in our homes, at our workplaces and at school, affects our well-being. Since air is not visible, we do not always think about it. However, the indoor climate is crucial for how we feel, for our energy levels and whether we stay healthy. Lindab wants to contribute to the architecture and indoor climate of tomorrow. We also want a better climate for our planet. That is why we develop energy efficient solutions for healthy indoor environments.

OUR VISION

We want to be the leading player in the area in which we are strongest – ventilation in Europe. We focus on air distribution and air diffusion. Since we offer high-quality products, we focus on Europe where demand for good ventilation is high, and we can offer superior availability. We specialise in those parts of the ventilation system where we are the strongest. We adapt our offering to the local market, with our core ventilation offering as the clear common denominator in all markets.

THE IMPORTANCE OF VENTILATION

About 90 percent of the global population breathes poor air every day. A common misconception is that outdoor air is more polluted due to emissions, smog, and harmful chemicals. In fact, indoor air in homes, schools, offices, and factories can be as much as five times more polluted. People nonetheless spend most of their life indoors. The most common causes of indoor air pollution are mold, chemicals in, for example, furniture and building materials, dust, radon, and cigarette smoke but, above all, airborne particles from combustion and industrial processes, which are so small they can enter the human bloodstream via the respiratory system. Today, air pollution is a risk factor in several of the world's most common causes of death, including heart disease, pneumonia, stroke, diabetes, and lung cancer. Ventilation is an efficient and convenient method to remove those indoor air pollutants.

SUSTAINABILITY PLAN

For us, sustainability is a way of thinking and working. This affects how we work with Lindab's strategy in all areas. Everything from the purchases we make, to the deliveries and the service we offer our customers. Lindab has three long-term, non-financial targets for the business, one that focuses on increasing our attractiveness as an employer, one for reducing our own carbon dioxide emissions, and one for a better working environment.

Read more about Lindab Groups sustainability work and non-financial targets on www.lindabgroup.com.

STEEL – A SUSTAINABLE MATERIAL

Steel provides products with a long service life. Steel has many advantages over other materials – it has a very long service life, is non-combustible and meets hygiene requirements. Steel is a fully recyclable material and scrap steel has a strong market position: steel recovered from structures and end products at the end of their lifecycle is efficiently recycled and re-used. We prioritise cooperation with steel suppliers driving development towards fossil-free steel and whose carbon dioxide intensity values are good. The steel we use must be free of particularly hazardous substances.

The use of steel in Lindab's products is what contributes most to Lindab's CO2 emissions. The transition to decarbonised steel is Lindab's most significant individual action in terms of its effect on the environment. Through our collaboration with SSAB and H2 Green Steel, we will also be among the first in Europe to have access to near-zero and fossil free steel in 2026.

PRODUCT



PRODUCT DESCRIPTION

Further information can be found at https://www.lindab.com.

Circular ventilation fittings made of galvanized steel (Z275) used in ventilation duct systems to transport air. Typically bends, T-pieces, coupling and reducers etc.

The fittings are produced according to EN1506 & EN12237 and are installed using screws or rivets.

The Lindab safe fittings are normally equipped with a factory installed double-lipped EPDM rubber gasket for optimal tightness (Eurovent certified for tightness class D), performance and easy installation.
There are some fittings without the EPDM-gasket in the portfolio as well.

Depending on size and shape a fitting can either be pressed or handmade and consist of:

- Only steel
- Steel and EPDM rubber
- Steel, EPDM rubber and sealant

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass- %	Material origin
Metals	96	Global
Minerals	-	
Fossil materials	4	Europe
Bio-based materials	-	

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	0,0
Biogenic carbon content in packaging, kg C	0,278

DECLARED UNIT AND SERVICE LIFE

Declared unit	1kg of safe fitting
Mass per declared unit	1kg
Reference service life	The reference service life of the product is highly dependent on the conditions of use, average lifespan under normal conditions is minimum 50 years. This is an estimated value based on experience and scientific facts about steel.

SUBSTANCES, REACH - VERY HIGH CONCERN

The product does not contain any REACH SVHC substances in amounts greater than 0,1 % (1000 ppm). More detailed information about the products material content can be found in the Building Product Declaration available online.

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 and their respective transportation to the manufacturing site, as well as packaging materials and other ancillary materials used in production. Also, fuels used by machines, and waste generated 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.

Due to multiple manufacturing sites, a weighted average, has been used for the data where possible. For example, the transport distance has been calculated this way, whereas the mode of transportation is rather based on a worst-case when different modes are used in the different manufacturing sites.

The sources of energy differ between each site, why all sources have been declared, by their weighted percentages. At the Swedish site, certified green energy is used, electricity from wind and heat from biogas. At the Czech Republic site, an average of national grid energy is used both for electricity and heat.

Manufacturing waste and wastewater are assumed to occur during production. This accounts for production scrap, packaging from input material as well as wastewater from the production processes. An assumption of 30 km transport distance to treatment facility has been made for all manufacturing waste, with material recycling for metal materials and incineration with energy recovery for all other waste.

The steel raw material is received by Lindab Group's own steel service centre, Lindab Steel AB. It is Lindab's own EPD Hot-dip galvanized steel with zinc coating (EPDHUB-0463) that is used as input material in this EPD. From Lindab Steel AB the material is delivered to Lindab Ventilation production units. Regarding the unit in Czech Republic the transport of the Lindab steel is made by ferry. The products are then processed on automated lines or assembled manually. For protection and transport purposes, the units are delivered in carton boxes with a mix of paper, plastic and wooden pallets.

TRANSPORT AND INSTALLATION (A4-A5)

Transportation impacts occurrs from final products delivery to warehouse as well as to construction site. These impacts (A4) cover fuel direct exhaust emissions, environmental impacts of fuel production, as well as related infrastructure emissions. Handling of packaging material is considered. Material loss during installation is estimated to be zero as the products are delivered in a ready to install condition. The transportation distance is based on the market share per country. The distance for transportation of installation waste to waste management facility is assumed to be 50 km as per an estimation of the locations of warehouses.

Transport from production place to user (A4)

Manufacturing site	Total dist. (km)	Transportation method
SWE	616	Lorry + ferry
CZ	1157	Lorry + ferry

PRODUCT USE AND MAINTENANCE (B1-B7)

This EPD does not cover the use phase. These life cycle stages are dependent on how the product is used and should be developed and included as part of a holistic assessment of specific construction works.

PRODUCT END OF LIFE (A5, C1-C4, D)

The end of life scenario is defined as follows: The deconstruction/demolition of the product is assumed to be negligible and therefore not taken into account. The average transport distance to waste treatment is assumed to be 40 km, where the steel content is material recycled, with an efficiency of 95% and the rest being put in landfill (World Steel Association, 2017). Any rubber content will be incinerated with energy recovery. See below tables for scenarios used in Modules C and D, based on EU statistics.

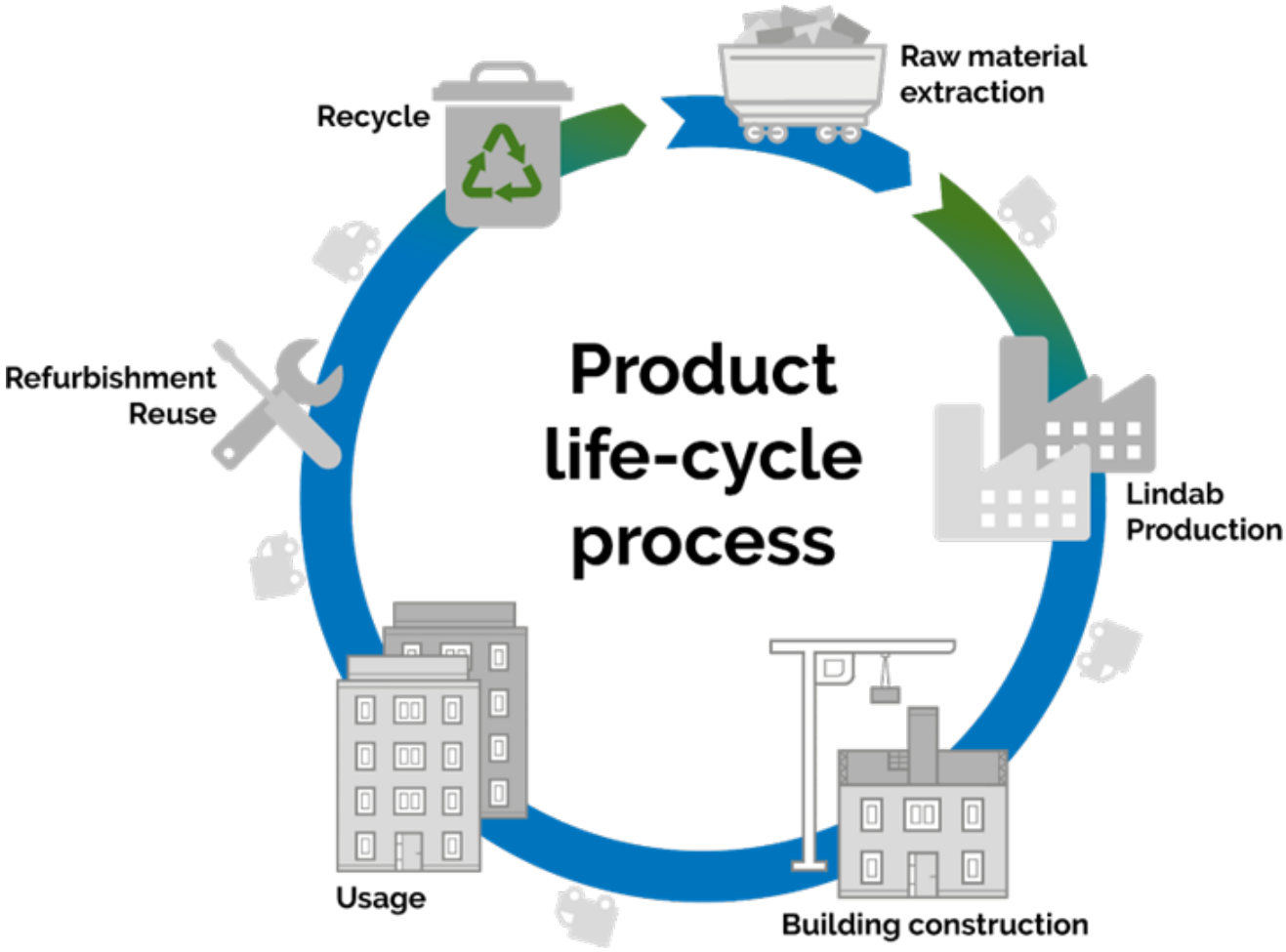
Transport to waste processing scenario (A5, C2)

Type	Distance
Lorry	50 km

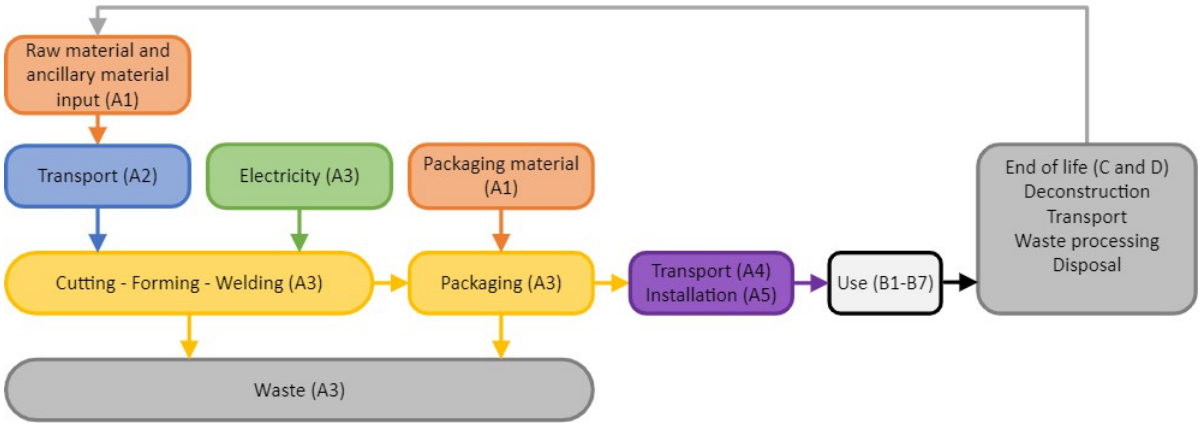
End of Life Scenarios (A5, C3, C4, D)

	%
Steel to recycling	95
Steel to landfill	5
Paper to recycling	79
Paper to incineration	21
Plastic to recycling	47
Plastic to incineration	53
Wood to recycling	50
Wood to reuse	50

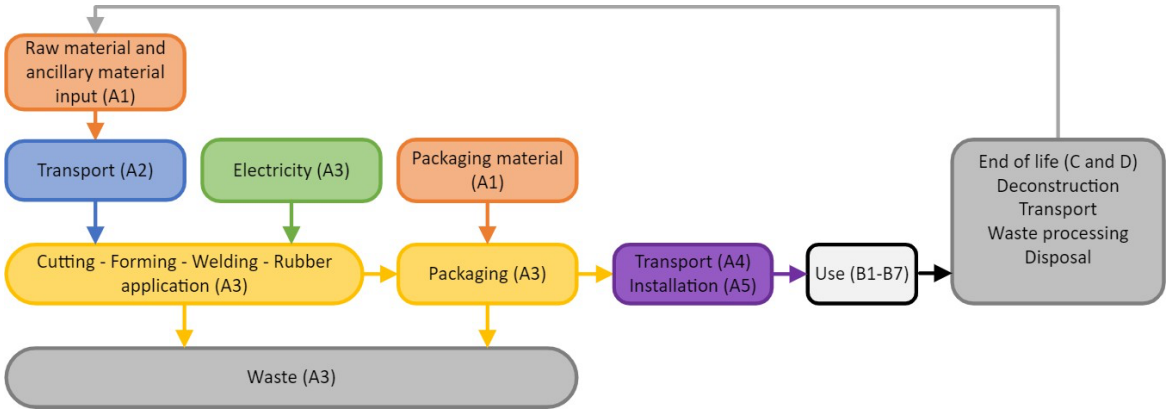
MANUFACTURING PROCESS



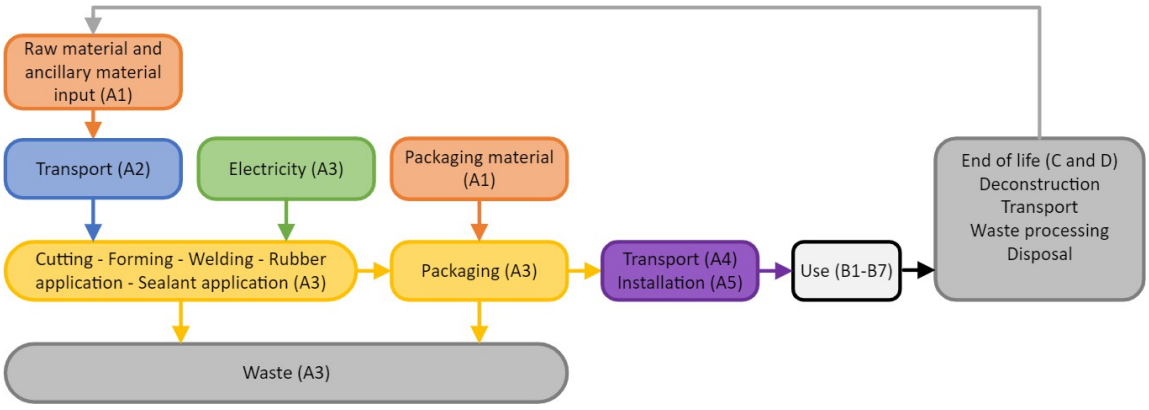
STEEL PRODUCTS



STEEL/RUBBER PRODUCTS



STEEL/RUBBER/SEALANT PRODUCTS



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	No allocation
Packaging materials	Weighted average for the two manufacturing sites
Ancillary materials	Weighted average for the two manufacturing sites
Manufacturing energy and waste	Weighted average for the two manufacturing sites

AVERAGES AND VARIABILITY

Type of average	Multiple production sites
Averaging method	Average by representative product
Variation in GWP-fossil for A1-A3	Between manufacturing sites +/- 13% Between articles <10 %

The EPD is declared as an average of two manufacturing sites, located in Czech Republic and in Sweden. The averaging method used is by shares of total produced mass of a representative product. The manufacturing process is similar in all other aspects but the geographic location. The variation is largely due to the additional transport needed to the CZ site from the steel production facility in SWE, as well as the used energy mix in CZ consist of fossil fuels to a larger extent.

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. For the input of raw material (galvanized steel) the Lindab Steel EPD EPD HUB-0463 is used. For other inputs Ecoinvent 3.8 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	kg CO2e	3,13E+00	2,57E-02	7,26E-03	3,17E+00	5,94E-02	2,52E-01	MND	MND	MND	MND	MND	MND	MND	MNR	4,70E-03	1,56E-01	2,53E-04	-1,21E+00
GWP – FOSSIL	kg CO2e	3,13E+00	2,57E-02	2,51E-01	3,41E+00	5,94E-02	7,05E-03	MND	MND	MND	MND	MND	MND	MND	MNR	4,70E-03	1,56E-01	2,53E-04	-1,21E+00
GWP – BIOGENIC	kg CO2e	0,00E+00	0,00E+00	-2,45E-01	-2,45E-01	0,00E+00	2,45E-01	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00
GWP – LULUC	kg CO2e	6,33E-04	9,84E-06	1,28E-03	1,93E-03	2,24E-05	3,18E-06	MND	MND	MND	MND	MND	MND	MND	MNR	1,73E-06	2,69E-05	2,39E-07	-2,72E-04
OZONE DEPLETION POT.	kg CFC-11e	3,92E-08	6,25E-09	1,48E-08	6,03E-08	1,48E-08	2,56E-10	MND	MND	MND	MND	MND	MND	MND	MNR	1,08E-09	2,75E-09	1,02E-10	-4,80E-08
ACIDIFICATION POTENTIAL	mol H+e	8,12E-03	1,08E-04	8,21E-03	1,64E-02	1,99E-04	1,27E-05	MND	MND	MND	MND	MND	MND	MND	MNR	1,99E-05	2,73E-04	2,38E-06	-5,42E-03
EP-FRESHWATER	kg Pe	7,06E-06	1,86E-07	6,12E-05	6,85E-05	4,23E-07	1,36E-07	MND	MND	MND	MND	MND	MND	MND	MNR	3,85E-08	1,10E-06	2,65E-09	-5,07E-05
EP-MARINE	kg Ne	1,86E-03	2,59E-05	7,05E-04	2,59E-03	4,42E-05	2,97E-06	MND	MND	MND	MND	MND	MND	MND	MNR	5,91E-06	6,10E-05	8,23E-07	-1,03E-03
EP-TERRESTRIAL	mol Ne	1,98E-02	2,87E-04	6,72E-03	2,68E-02	4,90E-04	3,04E-05	MND	MND	MND	MND	MND	MND	MND	MNR	6,52E-05	7,01E-04	9,05E-06	-1,27E-02
POCP (“SMOG”)	kg NMVOCe	6,41E-03	9,92E-05	1,84E-03	8,34E-03	1,89E-04	9,01E-06	MND	MND	MND	MND	MND	MND	MND	MNR	2,09E-05	1,90E-04	2,63E-06	-6,11E-03
ADP-MINERALS & METALS	kg Sbe	1,90E-04	6,26E-08	1,81E-04	3,70E-04	1,45E-07	1,96E-08	MND	MND	MND	MND	MND	MND	MND	MNR	1,10E-08	2,70E-06	5,81E-10	-2,21E-05
ADP-FOSSIL RESOURCE	MJ	3,48E+01	4,02E-01	3,62E+00	3,88E+01	9,48E-01	3,87E-02	MND	MND	MND	MND	MND	MND	MND	MNR	7,05E-02	2,89E-01	6,93E-03	-1,07E+01
WATER USE	m3e depr.	6,66E-01	1,83E-03	2,20E-01	8,88E-01	4,37E-03	9,38E-04	MND	MND	MND	MND	MND	MND	MND	MNR	3,16E-04	9,06E-03	2,20E-05	-2,09E-01

GWP = Global Warming Potential; 2) EP = Eutrophication potential. Required characterization 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.

ENVIRONMENTAL IMPACTS – GWP-GHG - THE INTERNATIONAL EPD SYSTEM

IMPACT CATEGORY	UNIT	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-GHG9)	kg CO2e	3,13E+00	2,57E-02	2,51E-01	3,41E+00	5,94E-02	7,05E-03	MND	MND	MND	MND	MND	MND	MND	MNR	4,70E-03	1,56E-01	2,53E-04	-1,21E+00

9) This indicator includes all greenhouse gases excluding biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product as defined by IPCC AR 5 (IPCC 2013). In addition, the characterization factors for the flows - CH4 fossil, CH4 biogenic and Dinitrogen monoxide - were updated in line with the guidance of IES PCR 1.2.5 Annex 1. This indicator is identical to the GWP-total of EN 15804:2012+A2:2019 except that the characterization factor for biogenic CO2 is set to zero.

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 energy8)	MJ	2,31E+00	5,05E-03	4,58E+00	6,90E+00	1,22E-02	4,49E-03	MND	MND	MND	MND	MND	MND	MND	MNR	7,95E-04	4,88E-02	6,02E-05	-1,82E+00
Renew. PER as material	MJ	0,00E+00	0,00E+00	2,13E+00	2,13E+00	0,00E+00	-2,13E+00	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of renew. PER	MJ	2,31E+00	5,05E-03	6,71E+00	9,03E+00	1,22E-02	-2,13E+00	MND	MND	MND	MND	MND	MND	MND	MNR	7,95E-04	4,88E-02	6,02E-05	-1,82E+00
Non-re. PER as energy	MJ	3,51E+01	4,02E-01	3,47E+00	3,89E+01	9,48E-01	3,86E-02	MND	MND	MND	MND	MND	MND	MND	MNR	7,05E-02	2,90E-01	6,93E-03	-1,07E+01
Non-re. PER as material	MJ	0,00E+00	0,00E+00	1,09E-01	1,09E-01	0,00E+00	-1,09E-01	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of non-re. PER	MJ	3,51E+01	4,02E-01	3,58E+00	3,90E+01	9,48E-01	-7,07E-02	MND	MND	MND	MND	MND	MND	MND	MNR	7,05E-02	2,90E-01	6,93E-03	-1,07E+01
Secondary materials	kg	5,76E-02	1,15E-04	6,04E-02	1,18E-01	2,68E-04	3,45E-05	MND	MND	MND	MND	MND	MND	MND	MNR	1,96E-05	3,20E-04	1,46E-06	6,90E-01
Renew. secondary fuels	MJ	5,79E-04	1,03E-06	3,03E-03	3,61E-03	2,35E-06	1,55E-07	MND	MND	MND	MND	MND	MND	MND	MNR	1,98E-07	1,63E-05	3,80E-08	2,34E-03
Non-ren. secondary fuels	MJ	7,27E-22	0,00E+00	0,00E+00	7,27E-22	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m3	5,44E-03	5,24E-05	6,60E-03	1,21E-02	1,25E-04	2,47E-05	MND	MND	MND	MND	MND	MND	MND	MNR	9,14E-06	3,33E-04	7,59E-06	-2,90E-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	5,52E-02	4,52E-04	3,72E-02	9,28E-02	1,02E-03	2,06E-04	MND	MND	MND	MND	MND	MND	MND	MNR	9,35E-05	1,84E-03	0,00E+00	-3,93E-01
Non-hazardous waste	kg	3,17E-01	7,67E-03	2,98E+00	3,30E+00	1,76E-02	8,33E-03	MND	MND	MND	MND	MND	MND	MND	MNR	1,54E-03	1,02E-01	4,80E-02	-2,00E+00
Radioactive waste	kg	5,43E-04	2,76E-06	1,60E-05	5,62E-04	6,54E-06	2,52E-07	MND	MND	MND	MND	MND	MND	MND	MNR	4,72E-07	1,58E-06	0,00E+00	-6,25E-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	4,85E-06	0,00E+00	0,00E+00	4,85E-06	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	2,94E-02	0,00E+00	1,97E-01	2,26E-01	0,00E+00	3,76E-02	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	9,23E-01	0,00E+00	0,00E+00
Materials for energy rec	kg	0,00E+00	0,00E+00	4,71E-04	4,71E-04	0,00E+00	8,50E-02	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	3,00E-02	0,00E+00	0,00E+00
Exported energy	MJ	0,00E+00	0,00E+00	6,07E-03	6,07E-03	0,00E+00	4,26E-02	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	5,77E-01	0,00E+00	0,00E+00

ENVIRONMENTAL IMPACTS – EN 15804+A1, CML / ISO 21930

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 CO2e	3,09E+00	2,54E-02	2,43E-01	3,36E+00	5,89E-02	7,37E-03	MND	MND	MND	MND	MND	MND	MND	MNR	4,65E-03	1,55E-01	2,48E-04	-1,15E+00
Ozone depletion Pot.	kg CFC-11e	3,07E-08	4,95E-09	1,13E-08	4,69E-08	1,17E-08	2,09E-10	MND	MND	MND	MND	MND	MND	MND	MNR	8,56E-10	2,25E-09	8,09E-11	-5,30E-08
Acidification	kg SO2e	7,38E-03	8,64E-05	7,11E-03	1,46E-02	1,61E-04	1,02E-05	MND	MND	MND	MND	MND	MND	MND	MNR	1,55E-05	2,19E-04	1,80E-06	-4,38E-03
Eutrophication	kg PO4 e	9,52E-04	1,67E-05	2,61E-03	3,58E-03	3,33E-05	9,47E-06	MND	MND	MND	MND	MND	MND	MND	MNR	3,52E-06	7,83E-05	3,87E-07	-2,07E-03
POCP (“smog”)	kg C2H4e	7,65E-04	3,52E-06	2,79E-04	1,05E-03	7,33E-06	7,00E-07	MND	MND	MND	MND	MND	MND	MND	MNR	6,03E-07	8,11E-06	7,53E-08	-6,90E-04
ADP-elements	kg Sbe	1,90E-04	6,09E-08	1,80E-04	3,70E-04	1,41E-07	1,94E-08	MND	MND	MND	MND	MND	MND	MND	MNR	1,07E-08	2,69E-06	5,72E-10	-2,21E-05
ADP-fossil	MJ	3,48E+01	4,02E-01	3,46E+00	3,87E+01	9,48E-01	3,86E-02	MND	MND	MND	MND	MND	MND	MND	MNR	7,05E-02	2,89E-01	6,93E-03	-1,07E+01

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

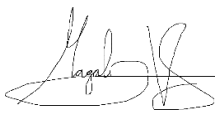
I hereby confirm that, following detailed examination, I have not established any relevant deviations by the studied Environmental Product Declaration (EPD), its LCA and project report, in terms of the data collected and used in the LCA calculations, the way the LCA-based calculations have been carried 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
10.11.2023



EPD Hub
VERIFIED ISO 14025

APPENDIX A

The products listed below correspond to the products modelled and included within the EPD. For the full details please visit our website Product catalogue on www.lindab.com.

AVU	ILRNU	TBSFU
BBKCU	ILRU	TBSU
BFBKCU	ILU	TCKPU
BFKCU	ILVU45	TCPMU
BFU	IMSKU	TCPU
BKCU	KCRU	TCPUCST
BKFMU	LORU	TCPUGYPS
BKFU	LSST	TCSIUCST
BKMU	LSSTE	TCU
BKU	MF	TSTCU
BMU	NPU	TSTU
BSFU	OUTR	TU
BSIUCST	PSKU	TVILU
BSU	PSU	TVU30
BU	PSVU45	TVU45
BUCST	RCFLU	XBPRU
DY	RCFU	XBPU
EP	RCLU	XCPU
EPF	RCU	XCU
EPFH	RFLU	XU
EPNF	RFU	XVU45
ESHU	RLU	YU
ESNU	RU	YVU30
ESU	SMFU	YVU45
ILKNU	SNPU	