

ENVIRONMENTAL PRODUCT DECLARATION

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

Lindab recycled aluminium 75 Colour coated Lindab Steel AB

EPD Registration number: HUB-1498

Version: 1.0

Publication date: 31 May 2024 Valid until: 31 May 2029 Revision date: 31 May 2024





GENERAL INFORMATION

MANUFACTURER

Manufacturer	Lindab Steel AB
Address	Stålhögavägen 117, 269 82 Båstad, Sweden
Contact details	order.steel@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	Sister EPD to HUB-0267
Scope of the EPD	Cradle to gate with options, A4-A5, and modules C1-C4, D
EPD author	Magnus Stahle
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	Lindab recycled Aluminium 75 Colour Coated
Additional labels	-
Product reference	FAAL, FAALF, PX12AL, PX12ALF, PXALM, PXALMF, FAALMD, FAALMD-D, PXALMD
Place of production	Grevie, Sweden
Period for data	2022-01-01 – 2022-12-31
Averaging in EPD	No averaging
Variation in GWP-fossil for A1-A3	-

More information on page 7.

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 kg
Declared unit mass	1 kg
GWP-fossil, A1-A3 (kgCO2e)	2,95
GWP-total, A1-A3 (kgCO2e)	2,98
Secondary material, inputs (%)	80,2
Secondary material, outputs (%)	86,4
Total energy use, A1-A3 (kWh)	0,262
Total water use, A1-A3 (m3e)	0







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

THE IMPORTANCE OF CONSTRUCTION PRODUCTS

Ingenious systems for ceilings, walls, and floors to specially designed rivets, screws, and profiled sheeting profiles. All equal important parts of a well-functioning building. By choosing the right kind of facade or roof for example, we can create a durable, sustainable building that shortens the need for renovation and expands the life cycle. In that way we use our resources more efficient and at the same time cut costs and unnecessary transportation and waste. All key ingredients in the EU Green Deal. When it comes to construction, it is not just a question of getting it done, but rather, getting it done right.







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 fossil-free 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 CO2 reduced steel in 2026. When it becomes available, we will make use of it in a green product line.







PRODUCT





PRODUCT DESCRIPTION

This EPD covers all colour coated aluminium supplied by Lindab´s steel service centre. The sheet aluminium exists in various qualities and surface coatings, such as polyester (PE25), PVDF and Durafrost Pro. The materials are used in the tinsmith market first and foremost, but also for other types of manufacturing.

The base material in the colour coated products is aluminium. Aluminium is a material very well suited for recycling, and it can be recycled repeatedly without changing its quality. The colour coated aluminium covered by this EPD contains a minimum of 75 % secondary material (post consumer scrap).

Lindab colour coated aluminium typically comprise two paint layers, on both sides of the strip, and pretreatment. The primer layer gives a good adhesion to the top coat. The top coat type is chosen based on the end application. The top coat gives the product its colour, other chosen visual effects and largely defines the overall performance of the product. Total thickness of the colour coating varies between $25-50~\mu m$ depending on the product.

The product is available in various qualities, thicknesses, widths and paint systems. For current assortment please contact your sales representative or visit our webpage, www.lindab.se.

Conversion table: Weight per m²

Thickness (mm)	Kg/m²
0,7	1,89
0,8	2,16
0,9	2,43
1,0	2,7







PRODUCT RAW MATERIAL MAIN COMPOSITION VP

Raw material category	Amount, mass- %	Material origin
Metals	98-99	Europe
Minerals	-	-
Fossil materials	1-2	Europe
Bio-based materials	-	-

BIOGENIC CARBON CONTENT VP

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	0,0037

FUNCTIONAL UNIT AND SERVICE LIFE

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

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						Eı	nd of I	ife sta	ge		yond systen undar	n
A1	A2	A3	A4	A5	B1	B2	В3	B4	B5	B6	B7	C1	C2	C3	C4		D	
х	х	х	х	х	MND	MND	MND	MND	MND	MND	MND	х	х	х	х		Х	
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 generated in the production processes at the manufacturing facilities are included in this stage. The study also considers the material losses (2,37 %) occurring during the manufacturing processes as well as losses during electricity transmission. Lindab Steel uses 100 % certified renewable electricity in the production.

The aluminium raw material is received by Lindab Group's own steel service centre, Lindab Steel AB. After a quality control the most suitable coil is selected for the manufacturing orders, to minimize scrap. The coil is slitted into correct dimensions, re-coiled or cut to length. For protection and transport purposes, the steel is protected with a protective film (optional) and the units are protected with a composite material with a mix of paper and plastic, wooden pallets, steel strap and steel edge protection.

Before packing and shipping each unit gets a unique ID number for traceability.









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. Energy (0,1kWh) for construction is included in A5.

Transport from production place to user (A4)

То	Total dist. (km)	Transportation method
EU	350	Lorry

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 (C1-C4, D)

Energy (0,1kWh) for deconstruction is included in C1, and activities related to aluminium recycling is included in C3. A recycling rate of 95% and landfill rate of 5% has been assumed for the product. That is to be seen as the proportion of the material in the product that will be recycled in a subsequent system. External scrap in the raw material is also deducted and accounts for 75%. Hence the net flow to be credited in module D is 24%. See below tables for scenarios used in Modules C and D.

Transport to waste processing scenario (A5, C2)

Туре	Distance
Lorry	50 km

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

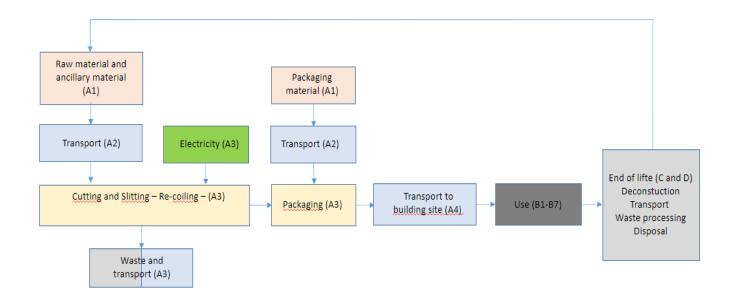
	%
Aluminium to recycling	95
Aluminium to landfill	5
Steel to recycling	95
Steel to landfill	5
Paper to recycling	79
Paper to incineration	21
Plastic to recycling	47
Plastic to incineration	53
Wood to recycling	50
Wood to reuse	50







MANUFACTURING PROCESS









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. While cut-off criteria according to the PCR were employed, much data which would have fallen within that scope were included regardless, if available, resulting in a data set which is robust and captures all significant contributors to the LCA results.

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	Allocated by mass or volume
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	Not applicable

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 Speira have been used to represent the raw material. 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	А3	A1-A3	A4	A5	B1	B2	В3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP – TOTAL ¹⁾	kg CO₂e	2,94E+0	4,33E-2	-1,44E-3	2,98E+0	3,09E-2	2,15E-2	MND	4,954E-3	4,69E-3	2,08E-2	2,64E-4	-1,85E+0						
GWP – FOSSIL	kg CO₂e	2,90E+0	4,33E-2	1,28E-2	2,95E+0	3,09E-2	6,85E-3	MND	4,63E-3	4,69E-3	2,08E-2	2,63E-4	-1,81E+0						
GWP – BIOGENIC	kg CO₂e	0,00E+0	3,87E-7	-1,43E-2	-1,43E-2	0,00E+0	1,43E-2	MND	0,00E+0	0,00E+0	0,00E+0	0,00E+0	0,00E+0						
GWP – LULUC	kg CO₂e	4,15E-2	1,60E-5	1,87E-5	4,15E-2	1,16E-5	3,25E-4	MND	3,25E-4	1,73E-6	2,73E-5	2,49E-7	-4,00E-2						
OZONE DEPLETION POT.	kg CFC-11e	3,54E-7	9,96E-9	5,27E-10	3,65E-7	7,71E-9	2,53E-10	MND	2,26E-10	1,08E-9	2,57E-9	1,07E-10	-1,85E-7						
ACIDIFICATION POTENTIAL	mol H⁺e	2,40E-2	1,83E-4	5,23E-5	2,42E-2	9,85E-5	3,38E-5	MND	3,23E-5	1,99E-5	2,64E-4	2,48E-6	-1,16E-2						
EP-FRESHWATER ²⁾	kg Pe	9,67E-5	3,54E-7	3,24E-7	9,74E-5	2,21E-7	2,61E-7	MND	2,52E-7	3,84E-8	1,12E-6	2,76E-9	-9,79E-5						
EP-MARINE	kg Ne	3,12E-3	5,44E-5	1,25E-5	3,19E-3	2,17E-5	5,95E-6	MND	5,52E-6	5,90E-6	5,58E-5	8,57E-7	-1,34E-3						
EP-TERRESTRIAL	mol Ne	3,10E-2	6,01E-4	1,33E-4	3,18E-2	2,41E-4	7,42E-5	MND	6,94E-5	6,51E-5	6,45E-4	9,43E-6	-1,49E-2						
POCP ("SMOG") ³⁾	kg NMVOCe	1,05E-2	1,92E-4	4,79E-5	1,08E-2	9,49E-5	1,77E-5	MND	1,64E-5	2,08E-5	1,77E-4	2,74E-6	-5,46E-3						
ADP-MINERALS & METALS ⁴⁾	kg Sbe	0,00E+0	1,02E-7	4,10E-7	5,12E-7	7,57E-8	3,24E-7	MND	3,17E-7	1,10E-8	2,80E-6	6,05E-10	-4,78E-6						
ADP-FOSSIL RESOURCE	MJ	0,00E+0	6,50E-1	2,21E-1	8,71E-1	4,94E-1	6,31E-1	MND	6,27E-1	7,05E-2	2,82E-1	7,22E-3	-2,79E+1						
WATER USE ⁵⁾	m³e depr.	1,00E-1	2,91E-3	5,23E-3	1,08E-1	2,28E-3	2,42E-2	MND	2,40E-2	3,15E-4	5,47E-3	2,29E-5	-3,40E+0						





USE OF NATURAL RESOURCES

IMPACT CATEGORY	UNIT	A1	A2	А3	A1-A3	A4	A5	B1	B2	В3	B4	B5	B6	B7	C1	C2	СЗ	C4	D
Renew. PER as energy ⁸⁾	MJ	0,00E+0	7,33E-3	1,34E-1	1,41E-1	6,39E-3	2,60E-1	MND	2,60E-1	7,94E-4	5,00E-2	6,27E-5	-1,08E+1						
Renew. PER as material	MJ	0,00E+0	0,00E+0	1,25E-1	1,25E-1	0,00E+0	-1,25E-1	MND	0,00E+0	0,00E+0	0,00E+0	0,00E+0	0,00E+0						
Total use of renew. PER	MJ	0,00E+0	7,33E-3	2,59E-1	2,67E-1	6,39E-3	1,35E-1	MND	2,60E-1	7,94E-4	5,00E-2	6,27E-5	-1,08E+1						
Non-re. PER as energy	MJ	0,00E+0	6,50E-1	1,63E-1	8,13E-1	4,94E-1	6,28E-1	MND	6,25E-1	7,05E-2	2,82E-1	7,22E-3	-2,78E+1						
Non-re. PER as material	MJ	0,00E+0	0,00E+0	6,17E-2	6,17E-2	0,00E+0	-6,17E-2	MND	0,00E+0	0,00E+0	0,00E+0	0,00E+0	0,00E+0						
Total use of non-re. PER	MJ	0,00E+0	6,50E-1	2,25E-1	8,75E-1	4,94E-1	5,66E-1	MND	6,25E-1	7,05E-2	2,82E-1	7,22E-3	-2,78E+1						
Secondary materials	kg	0,00E+0	1,81E-4	5,52E-4	7,33E-4	1,39E-4	6,02E-5	MND	5,66E-5	1,96E-5	3,14E-4	1,52E-6	-2,72E-1						
Renew. secondary fuels	MJ	0,00E+0	1,82E-6	4,05E-3	4,05E-3	1,23E-6	2,89E-7	MND	2,35E-7	1,97E-7	1,63E-5	3,96E-8	-2,11E-3						
Non-ren. secondary fuels	MJ	0,00E+0	0,00E+0	-2,33E-6	-2,33E-6	0,00E+0	0,00E+0	MND	0,00E+0	0,00E+0	0,00E+0	0,00E+0	0,00E+0						
Use of net fresh water	m ³	0,00E+0	8,42E-5	1,27E-4	2,12E-4	6,55E-5	6,07E-4	MND	6,05E-4	9,13E-6	1,65E-4	7,90E-6	-7,55E-2						

⁸⁾ PER = Primary energy resources.

END OF LIFE - WASTE

IMPACT CATEGORY	UNIT	A1	A2	А3	A1-A3	A4	A5	B1	B2	В3	B4	B5	B6	B7	C1	C2	C3	C4	D
Hazardous waste	kg	0,00E+0	8,62E-4	6,13E-4	1,48E-3	5,29E-4	5,41E-4	MND	5,22E-4	9,34E-5	1,92E-3	0,00E+0	-5,34E-1						
Non-hazardous waste	kg	0,00E+0	1,42E-2	1,06E-2	2,47E-2	9,20E-3	1,53E-2	MND	1,41E-2	1,54E-3	6,12E-2	5,00E-2	-4,43E+0						
Radioactive waste	kg	0,00E+0	4,35E-6	1,65E-6	6,00E-6	3,40E-6	9,64E-6	MND	9,62E-6	4,71E-7	1,65E-6	0,00E+0	-1,76E-4						





END OF LIFE - OUTPUT FLOWS

IMPACT CATEGORY	UNIT	A1	A2	A3	A1-A3	A4	A5	B1	B2	В3	B4	B5	В6	B7	C1	C2	C3	C4	D
Components for re-use	kg	0,00E+0	0,00E+0	4,35E-6	4,35E-6	0,00E+0	5,60E-3	MND	0,00E+0	0,00E+0	0,00E+0	0,00E+0	0,00E+0						
Materials for recycling	kg	0,00E+0	0,00E+0	2,38E-2	2,38E-2	0,00E+0	2,84E-3	MND	0,00E+0	0,00E+0	9,50E-1	0,00E+0	0,00E+0						
Materials for energy rec	kg	0,00E+0	0,00E+0	4,68E-7	4,68E-7	0,00E+0	4,10E-3	MND	0,00E+0	0,00E+0	0,00E+0	0,00E+0	0,00E+0						
Exported energy	MJ	0,00E+0	0,00E+0	0,00E+0	0,00E+0	0,00E+0	2,11E-2	MND	0,00E+0	0,00E+0	0,00E+0	0,00E+0	0,00E+0						

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

IMPACT CATEGORY	UNIT	A1	A2	А3	A1-A3	A4	A5	B1	B2	В3	B4	B5	B6	B7	C1	C2	СЗ	C4	D
Global Warming Pot.	kg CO₂e	2,71E+0	7,10E-5	1,24E-2	2,73E+0	3,06E-2	7,11E-3	MND	4,89E-3	4,64E-3	2,05E-2	2,58E-4	-1,79E+0						
Ozone depletion Pot.	kg CFC ₋₁₁ e	3,44E-7	1,34E-11	4,45E-10	3,44E-7	6,10E-9	2,25E-10	MND	2,03E-10	8,55E-10	2,08E-9	8,43E-11	-1,58E-7						
Acidification	kg SO₂e	1,92E-2	1,71E-7	4,13E-5	1,93E-2	7,99E-5	2,72E-5	MND	2,59E-5	1,54E-5	2,13E-4	1,87E-6	-9,97E-3						
Eutrophication	kg PO₄³e	1,31E-3	3,68E-8	1,67E-5	1,33E-3	1,69E-5	1,42E-5	MND	1,30E-5	3,52E-6	7,05E-5	4,03E-7	-3,98E-3						
POCP ("smog")	kg C ₂ H ₄ e	1,75E-3	8,47E-9	4,84E-6	1,76E-3	3,72E-6	1,31E-6	MND	1,25E-6	6,03E-7	8,07E-6	7,84E-8	-1,00E-3						
ADP-elements	kg Sbe	1,50E-4	2,34E-10	4,10E-7	1,51E-4	7,36E-8	3,24E-7	MND	3,18E-7	1,07E-8	2,80E-6	5,96E-10	-4,31E-6						
ADP-fossil	MJ	2,68E+1	1,8E-3	2,21E-1	2,70E+1	4,94E-1	6,28E-1	MND	6,25E-1	7,05E-2	2,82E-1	7,22E-3	-2,79E+1						





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 31.05.2024







