



ENVIRONMENTAL PRODUCT DECLARATION

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

Lindab RainLine™
Lindab Profil AB

EPD HUB, HUB-0245

Publishing date 20 January 2023, last updated date 20 January 2023, valid until 20 January 2028

GENERAL INFORMATION

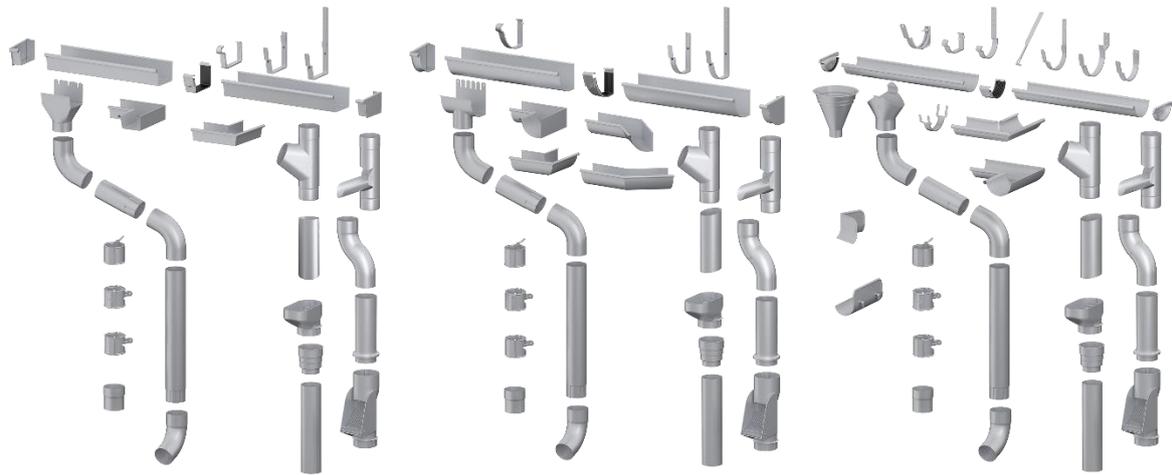
MANUFACTURER

Manufacturer	Lindab Profil AB
Address	Vistorpsvägen 56, 269 71 Förslöv
Contact details	order.profil@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	Lina Hedvall
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	S.V, 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 RainLine™
Additional labels	Please see attachment of document.
Product reference	Please see attachment of document.
Place of production	Förslöv, Sweden
Period for data	Calendar year 2021
Averaging in EPD	Not applicable
Variation in GWP-fossil for A1-A3	

More information on page 7.

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 kg of rainwater system
Declared unit mass	1 kg
GWP-fossil, A1-A3 (kgCO ₂ e)	2.99
GWP-total, A1-A3 (kgCO ₂ e)	2.99
Secondary material, inputs (%)	4.24
Secondary material, outputs (%)	94.3
Total energy use, A1-A3 (kWh)	10.8
Total water use, A1-A3 (m ³ e)	0.00244

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 most 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 efficiently 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.

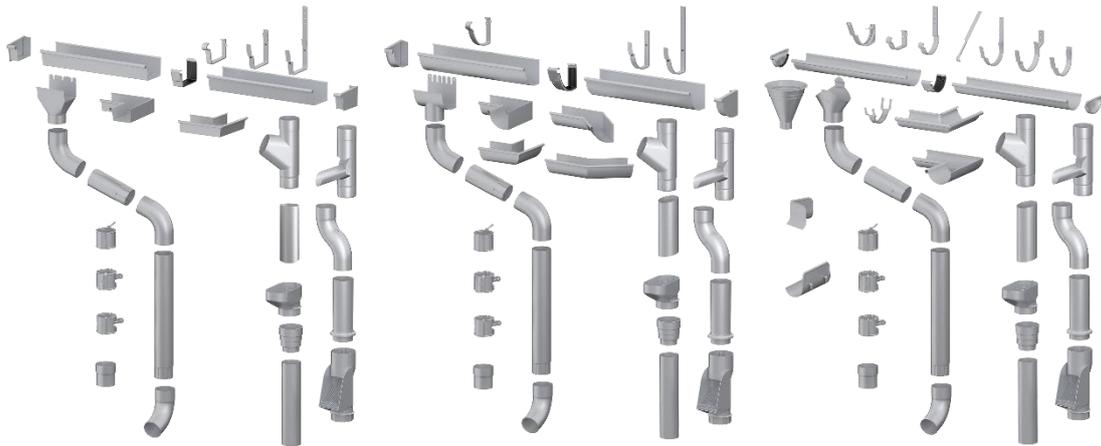


STEEL – A SUSTAINABLE MATERIAL

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

Lindab RainLine™ is a rainwater guttering system manufactured from steel meant to divert rainwater from the top of a building to the bottom in an organized manner.

Further information can be found at <https://www.lindab.com/Catalog/building-products/>

PRODUCT RAW MATERIAL MAIN COMPOSITION VP

Raw material category	Amount, mass- %	Material origin
Metals	99,29	EU
Minerals		
Fossil materials	<1	EU
Bio-based materials		

BIOGENIC CARBON CONTENT VP

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	0
Biogenic carbon content in packaging, kg C	0.0018

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 kg of rainwater system
Mass per declared unit	kg
Functional unit	1 kg
Reference service life	60 years

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 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 steel 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 for further production. Width and burrs are controlled on the slitted coils. Before packing and shipping the slitted coil gets a unique ID number for traceability.

Coils are placed on reels that push the material into rolling mills or punching and pressing machines. In the rolling mill, the sheet is formed into the desired profile, which is then cut to a specific length and fed out for packing and delivery.

In the pressing machines, the sheet metal is first cut into blanks which are then pressed/shaped or punched finished product. The details are then packed in the packaging intended for the product and put in storage to then be picked and unloaded for delivery to the customer.

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 (A4)

To	Total dist. (km)	Transportation method
Sweden	312	lorry
Denmark	353	lorry
Germany	478	lorry
Great Britain	1036	194/lorry + 842/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 (C1-C4, D)

Energy for deconstruction is included in C1, and activities related to steel recycling is included in C3. A recycling rate of 95% has been assumed for the product. That is to be seen as the proportion of the material in the product that will be recycled (or re-used) in a subsequent system. External scrap in the raw material is also deducted and accounts for 20%. Hence the net flow to be credited in module D is 74,5%. This is illustrated in the table below per declared unit.

End of Life (C1, C3, C4)

	Unit	Value
Recycling steel and other metals	kg	0.943255

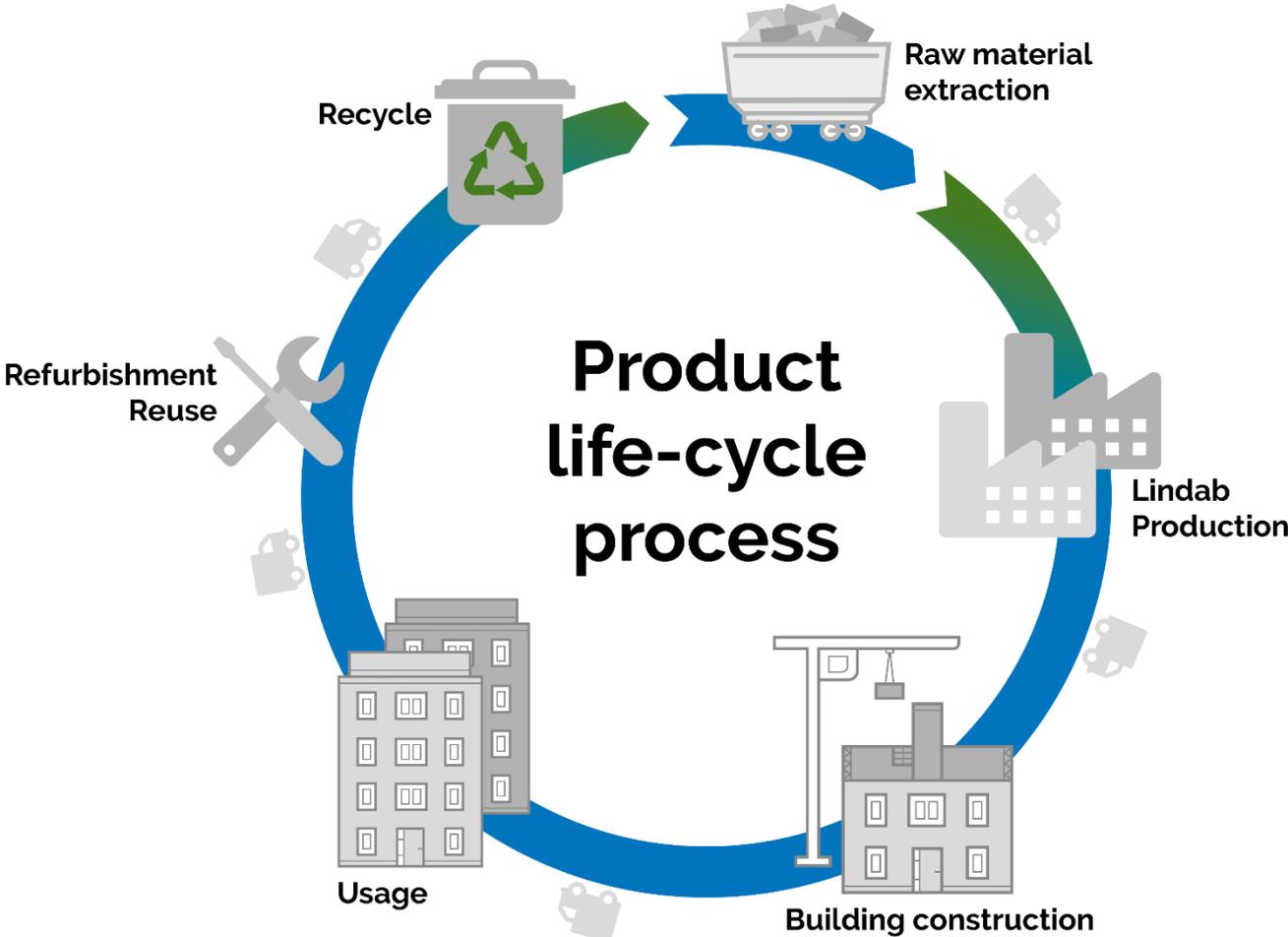
Transport to waste processing (C2)

Type	Distance
Lorry	50 km

Benefits and loads beyond the system boundary (D)

	Unit	Value
Steel recycling	kg	0,745
Paper recycling – kraft paper	%	86,50
Paper recycling - cardboard	%	49,00

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 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	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	Not applicable

This EPD is product and factory specific and does not contain average calculations since this EPD refers to one specific product produced in one production plant.

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 suppliers SSAB, Nolato, Trelleborg and Åsljungapallen specific data have been used. For other inputs Ecoinvent 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 ¹⁾	kg CO ₂ e	2,94E0	3,76E-2	1,16E-2	2.99	5,3E-2	3,22E-2	MND	5,59E-3	4,36E-3	3,61E-2	4,88E-2	-1,5E0						
GWP – fossil	kg CO ₂ e	2,94E0	3,76E-2	1,48E-2	2.99	5,35E-2	6,33E-3	MND	5,06E-3	4,35E-3	3,77E-2	4,88E-2	-1,48E0						
GWP – biogenic	kg CO ₂ e	2,25E-4	2,84E-5	-3,24E-3	-2,98E-3	2,04E-5	2,56E-2	MND	2E-4	3,3E-6	-1,6E-3	2,59E-6	-1,4E-2						
GWP – LULUC	kg CO ₂ e	6,88E-4	1,18E-5	9,57E-5	7,95E-4	2,3E-5	3,29E-4	MND	3,29E-4	1,37E-6	3,16E-5	1,83E-7	-9,54E-4						
Ozone depletion pot.	kg CFC ₁₁ e	1,94E-9	9,22E-9	1,53E-9	1,27E-8	1,22E-8	2,63E-9	MND	2,48E-9	1,07E-9	3,29E-9	1,59E-10	-5,58E-8						
Acidification potential	mol H ⁺ e	8,15E-3	1,21E-4	1,09E-4	8,38E-3	7,78E-4	4E-5	MND	3,29E-5	1,4E-5	2,99E-4	7,15E-6	-8,33E-3						
EP-freshwater ²⁾	kg Pe	2,68E-6	3,19E-7	1,13E-6	4,13E-6	3,66E-7	4,55E-7	MND	4,41E-7	3,7E-8	1,56E-6	9,09E-9	-9,92E-5						
EP-marine	kg Ne	1,92E-3	2,65E-5	3,01E-5	1,98E-3	1,91E-4	8,83E-6	MND	5,64E-6	3,08E-6	6,68E-5	2,99E-6	-1,66E-3						
EP-terrestrial	mol Ne	2,09E-2	2,95E-4	3,45E-4	2,15E-2	2,12E-3	1,02E-4	MND	7,39E-5	3,43E-5	7,7E-4	3,22E-5	-1,88E-2						
POCP (“smog”) ³⁾	kg NMVOCe	5,89E-3	1,16E-4	6,24E-5	6,07E-3	5,83E-4	2,54E-5	MND	1,68E-5	1,34E-5	2,1E-4	8,42E-6	-7,87E-3						
ADP-minerals & metals ⁴⁾	kg Sbe	1,85E-4	6,71E-7	2,78E-7	1,86E-4	7,24E-7	2,2E-7	MND	2,04E-7	7,75E-8	1,32E-6	7,25E-9	-5,06E-3						
ADP-fossil resources	MJ	3,36E1	6,1E-1	2,07E-1	3,44E1	7,98E-1	6,04E-1	MND	5,93E-1	7,07E-2	3,32E-1	1,19E-2	-1,33E1						
Water use ⁵⁾	m ³ e depr.	8,54E-3	2,27E-3	5,58E-3	1,64E-2	2,49E-3	8,13E-3	MND	7,77E-3	2,63E-4	5,31E-3	4,15E-4	-8,07E-1						

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	2,43E0	7,68E-3	1,6E-1	2,59E0	8,38E-3	2,85E-1	MND	2,85E-1	8,9E-4	4,57E-2	1,84E-4	-1,55E0						
Renew. PER as material	MJ	0E0	0E0	7,13E-2	7,13E-2	0E0	-3,88E-1	MND	0E0	0E0	0E0	0E0	3,27E-1						
Total use of renew. PER	MJ	2,43E0	7,68E-3	2,31E-1	2,67E0	8,38E-3	-1,03E-1	MND	2,85E-1	8,9E-4	4,57E-2	1,84E-4	-1,23E0						
Non-re. PER as energy	MJ	3,54E1	6,1E-1	2E-1	3,62E1	7,98E-1	6,04E-1	MND	5,93E-1	7,07E-2	3,32E-1	1,19E-2	-1,33E1						
Non-re. PER as material	MJ	3,35E-2	0E0	7,5E-3	4,1E-2	0E0	7,5E-3	MND	0E0	0E0	-1,62E-1	-1,62E-1	0E0						
Total use of non-re. PER	MJ	3,54E1	6,1E-1	2,07E-1	3,62E1	7,98E-1	6,12E-1	MND	5,93E-1	7,07E-2	1,69E-1	-1,5E-1	-1,33E1						
Secondary materials	kg	3,35E-2	0E0	8,86E-3	4,24E-2	0E0	0E0	MND	0E0	0E0	0E0	0E0	5,67E-1						
Renew. secondary fuels	MJ	2,69E-10	0E0	0E0	2,69E-10	0E0	0E0	MND	0E0	0E0	0E0	0E0	0E0						
Non-ren. secondary fuels	MJ	3,41E-9	0E0	0E0	3,41E-9	0E0	0E0	MND	0E0	0E0	0E0	0E0	0E0						
Use of net fresh water	m ³	1,62E-3	1,27E-4	6,9E-4	0.00244	1,35E-4	1,74E-4	MND	1,58E-4	1,47E-5	1,44E-4	2,25E-5	-3,21E-2						

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	6,84E-2	5,93E-4	8,06E-4	6,98E-2	8,04E-4	6,4E-4	MND	4,82E-4	6,87E-5	0E0	6,14E-4	-5,2E-1						
Non-hazardous waste	kg	1,19E-1	6,54E-2	2,7E-2	2,12E-1	6,11E-2	2,85E-2	MND	1,82E-2	7,6E-3	0E0	7,05E-2	-6,39E0						
Radioactive waste	kg	7,17E-4	4,19E-6	5,99E-7	7,21E-4	5,52E-6	8,37E-6	MND	8,31E-6	4,86E-7	0E0	6,23E-8	-1,47E-5						

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	0E0	0E0	0E0	0E0	0E0	0E0	MND	0E0	0E0	0E0	0E0	0E0						
Materials for recycling	kg	0E0	0E0	2,16E-1	2,16E-1	0E0	3,45E-2	MND	0E0	0E0	9,43E-1	0E0	0E0						
Materials for energy rec	kg	0E0	0E0	0E0	0E0	0E0	3,38E-3	MND	0E0	0E0	0E0	0E0	0E0						
Exported energy	MJ	0E0	0E0	0E0	0E0	0E0	1,27E-1	MND	0E0	0E0	1,18E-1	0E0	0E0						

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 CO ₂ e	2,78E0	3,72E-2	1,5E-2	2,83E0	5,3E-2	8,26E-3	MND	5,3E-3	4,32E-3	3,72E-2	4,87E-2	-1,42E0						
Ozone depletion Pot.	kg CFC ₁₁ e	1,8E-9	7,33E-9	1,35E-9	1,05E-8	9,7E-9	4,13E-9	MND	4,01E-9	8,5E-10	2,7E-9	1,31E-10	-5E-8						
Acidification	kg SO ₂ e	6,18E-3	7,98E-5	7,52E-5	6,33E-3	6,07E-4	3,21E-5	MND	2,67E-5	9,25E-6	1,89E-4	4,4E-6	-8,25E-3						
Eutrophication	kg PO ₄ ³ e	7,04E-4	1,61E-5	3,97E-5	7,6E-4	7,45E-5	2,33E-5	MND	1,43E-5	1,87E-6	7,35E-5	1,28E-5	-4,48E-3						
POCP (“smog”)	kg C ₂ H ₄ e	6,04E-4	4,59E-6	4,08E-6	6,13E-4	1,78E-5	1,94E-6	MND	1,14E-6	5,32E-7	8,77E-6	1,98E-7	-8,95E-4						
ADP-elements	kg Sbe	1,85E-4	6,71E-7	2,78E-7	1,86E-4	7,24E-7	2,2E-7	MND	2,04E-7	7,75E-8	1,32E-6	7,25E-9	-5,06E-3						
ADP-fossil	MJ	3,36E1	6,1E-1	2,07E-1	3,44E1	7,98E-1	6,04E-1	MND	5,93E-1	7,07E-2	3,32E-1	1,19E-2	-1,33E1						

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.

Silvia Vilčeková, as an authorized verifier acting for EPD Hub Limited

20.01.2023



ANNEX: PRODUCT ARTICLE INFORMATION

Product article information

BK, BKM, BKS, BM, BUTK, BUTKD,
FRK, FRK5, FRK6, FRK7, FUTK, GRÖR,
IBKM, IGROR, IMR, IOMV, IR, IRVI,
IRVY, ISOKN, ISROR, ISRORM, ISVHA,
IUTK, K07, K11, K11P, K16, K18, K21,
K21-D, K24, K33, K40, KFK, KFK20,
KFL, KFL35, KFM, KRAGE, KR, KRT,
KUPA, KVFK, KVGH, KGV, KVK07,
KVK21, KVRA, KVTP, KVI, KVVY, ,
MST, OK, OMV, OSK, OSKR, PRT, R,
RALBK, RALBKM, RALBKS, RALBUTK,
RALGROR, RALK07, RALK18, RALK21,
RALKFK, RALOMV, RALOSK, RALOSKR,
RALR, RALRGU, RALRTGH, RALRTGV,
RALRTK07, RALRTK21, RALRTOK,
RALRTRA, RALRTVI, RALRTVY, RALRVI,
RALRVY, RALSOKN, RALSROR,
RALSORM, RALSV, RALSVHA,
RALUTK, RALUTKS, RALVAN, RALVK,
RDN, RGU, RKFK, RTGH, RTGV, RTK07,
RTK21, RTKFK, RTOK, RTRA, RTVI,
RTVY, RVI, RVIL, RVY, RYVL, SHFB,
SHFBL, SHFS, SHUVPB, SKK, SKK05,
SKK16, SKK21, SKK30, SKOTR, SLAS,
SOKN, SROR, SRORM, SRÖR, SSC, SST,
SSTHÅ, SSVU, STAG, SV, SVHA, SVHÅ,
TAPPS, TB, UTK, UTKS, VANDAL,
VANSLS, VANSLS, VANSTD, VANUTK,
VATK, VATKL, VATKS, ÖSK, ÖSKR