

# Environmental Product Declaration



In accordance with ISO 14025:2006 and EN 15804:2012+A2:2019/AC:2021 for:

## ***AAAC Bare Aluminium Conductor – Type AL7 & AAAC Bare Aluminium Conductor – Type AL59***

From

## ***Coreal Alüminyum Kablo San. Tic. A.Ş***



Programme:	The International EPD System, <a href="http://www.environdec.com">www.environdec.com</a>
Programme operator:	EPD International AB
Licensee	EPD Türkiye
Type of EPD:	EPD of multiple products, based on worst-case
EPD registration number:	EPD-IES-0031193:001
Version date:	2026-04-07
Validity date:	2031-04-07


*An EPD may be updated or depublished if conditions change. To find the latest version of the EPD and to confirm its validity, see [www.environdec.com](http://www.environdec.com)*



## GENERAL INFORMATION

Programme Information	
<b>Programme:</b>	The International EPD® System
<b>Address:</b>	EPD International AB Box 210 60 SE-100 31 Stockholm Sweden
<b>Website:</b>	<a href="http://www.environdec.com">www.environdec.com</a>
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Product Category Rules (PCR)
CEN standard EN 15804 serves as the Core Product Category Rules (PCR)
Product Category Rules (PCR): < PCR 2019:14 Construction Products, Version 2.0.1 and UN CPC code (41533)>
PCR review was conducted by: <i>The Technical Committee of the International EPD System. A full list of members is available on <a href="http://www.environdec.com">www.environdec.com</a>. The review panel may be contacted via e-mail (<a href="mailto:support@environdec.com">support@environdec.com</a>)</i>
c-PCR, if applicable: <name, registration number, version>. <In case of an adopted c-PCR, the information shall state the name and version number of the original c-PCR document as well as the name and version number given to the c-PCR after adoption in International EPD System>.

Third-party Verification
Independent third-party verification of the declaration and data, according to ISO 14025:2006, via:
<input checked="" type="checkbox"/> <b>Individual EPD verification without a pre-verified LCA/EPD tool</b> Third-party verifier: Mamoru Yanagisawa at EPA Corporation

Approved by: International EPD System
Procedure for follow-up of data during EPD validity involves third party verifier:
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

The EPD owner has the sole ownership, liability, and responsibility for the EPD.

EPDs within the same product category but published in different EPD programmes, may not be comparable. For two EPDs to be comparable, they shall be based on the same PCR (including the same first-digit version number) or be based on fully aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical declared/functional units); have identical scope in terms of included life-cycle stages (unless the excluded life-cycle stage is demonstrated to be insignificant); apply identical impact assessment methods (including the same version of characterisation factors); and be valid at the time of comparison.

For further information about comparability, see EN 15804 and ISO 14025.

## INFORMATION ABOUT EPD OWNER

Owner of the EPD: Coreal Alüminyum Kablo San. Tic. A.Ş

Address: Kayseri Serbest Bölgesi 5.Cadde No:3, 38070 Melikgazi/Kayseri, Turkey

Contact: Hicran Tecer

Address and contact information of the LCA practitioner commissioned by the EPD owner, if applicable: ANKA SÜRDÜRÜLEBİLİRLİK BİLİŞİM EĞİTİM DANIŞMANLIĞI HİZMETLERİ LİMİTED ŞİRKETİ-Burcu Şimşek-Dilan Arslan

Description of the organisation: Coreal Alüminyum Kablo San. Tic. A.Ş. is a Türkiye-based manufacturer of aluminium wire rod and conductor products for power transmission and distribution applications. The present LCA study covers AAAC (All Aluminium Alloy Conductor) bare aluminium conductor products manufactured at Coreal's production facility in Türkiye.

In line with Coreal's production flow, manufacturing begins with the melting of the main aluminium input, followed by casting and the formation of aluminium wire rod. The wire rod is then transferred to the wire drawing stage, where it is reduced to the required wire dimensions. After drawing, the wires are processed in the stranding line to form the final AAAC bare aluminium conductor configuration. The finished products are then wound onto reels or drums, packaged, and prepared for dispatch.

Where required by product specification, alloy adjustment and composition control are applied during production in order to achieve the target material properties and technical performance. Quality control activities are carried out throughout the manufacturing process, including raw material acceptance, process monitoring, and verification of the relevant product characteristics.

For this LCA study, the upstream raw material stage is modelled using supplier-specific environmental data for the main aluminium input provided by EGA. This approach improves the representativeness of the upstream stage by reflecting the actual aluminium supply profile more accurately than generic background datasets. The same modelling logic is applied consistently for the AAAC Bare Aluminium Conductor – Type AL7 (AlMgSi) – 594-AL7 – 593.6 mm<sup>2</sup> and AAAC Bare Aluminium Conductor – Type AL59 – 910-AL59 – 910.7 mm<sup>2</sup> product systems.

Product-related or management system-related certifications:

Coreal Alüminyum Kablo San. Tic. A.Ş. applies management and quality control practices to support consistent production and operational control. Where applicable, valid product- or system-related certifications may be referenced as supporting organisational information.

For this LCA study, such certifications are provided for background information only and do not directly affect the modelling approach or the reported environmental results.

## PRODUCT INFORMATION

Product name: AAAC Bare Aluminium Conductor – Type AL7 (AlMgSi) (Product code: 594-AL7) and AAAC Bare Aluminium Conductor – Type AL59 (Product code: 910-AL59)

Product identification: AAAC (All Aluminium Alloy Conductor) bare aluminium conductors are finished, stranded aluminium-alloy conductors manufactured by Coreal Alüminyum Kablo San. Tic. A.Ş. in Türkiye for use in power transmission, distribution, and related electrical infrastructure applications. The declared products covered by this EPD are Type AL7 (AlMgSi) 594-AL7 (nominal cross-sectional area 593.6 mm<sup>2</sup>) and Type AL59 910-AL59 (nominal cross-sectional area 910.7 mm<sup>2</sup>). Manufacturing includes melting and alloy adjustment as required, casting and wire-rod formation, wire drawing to the required wire dimensions, and stranding/conductor formation. The finished bare conductors are wound onto reels/drums, packaged, and delivered at the factory gate. This EPD covers the product as produced and packaged at the factory gate and does not include downstream transport to specific projects, installation activities, or the use stage. Declared unit: 1 tonne (1,000 kg) of finished AAAC bare aluminium conductor product.

Visual representation (e.g., an image) of the product



UN CPC code: 41533-Semi-finished products of aluminium or aluminium alloys

Product description: AAAC bare aluminium conductors are finished, stranded aluminium-alloy products manufactured by Coreal Alüminyum Kablo San. Tic. A.Ş. in Türkiye. The declared products (Type AL7 (AlMgSi) 594-AL7 and Type AL59 910-AL59) are supplied as bare (uninsulated) conductors. The product is essentially metallic aluminium alloy and does not contain resins, binders, pigments, adhesives, coatings, insulation, or composite layers. The conductors are produced through metal preparation and alloy control as required, casting and wire-rod formation, wire drawing into individual wires, and stranding into the final conductor design. Finished conductors are wound onto reels/drums, packaged, and supplied for downstream distribution and installation.

AAAC conductors are designed for applications requiring high electrical conductivity, appropriate mechanical performance for overhead lines, and stable handling/installation behaviour. Typical applications include:

- overhead power transmission and distribution lines,
- electrical infrastructure in industrial and utility networks,
- supply to EPC contractors and utilities for grid expansion, refurbishment, and new line installation,
- general electrical and infrastructure projects where bare stranded conductors are used as conductive elements.

The declared product is used in construction and infrastructure works (e.g., power transmission/distribution networks and related electrical installations), supporting the applicability of PCR 2019:14 Construction Products.

Brief manufacturing description: Primary aluminium (and alloying elements as required for the declared AAAC alloy grades) is supplied to Coreal Alüminyum Kablo San. Tic. A.Ş.'s production facility in Türkiye and received under controlled incoming material checks. AAAC bare conductors are manufactured through a defined sequence of metallurgical and forming operations, including melting, melt treatment and chemistry control, continuous casting and rolling (CCR) to form aluminium alloy wire rod, wire

drawing into individual wires, and stranding to produce the final AAAC conductor construction. The finished conductors are wound onto reels/drums, packaged, and delivered at the factory gate. Electricity is consumed across the process chain, primarily for melting and furnace auxiliaries, CCR equipment, wire drawing and stranding machinery, material handling, and associated utilities. Packaging and handling materials are used as required for safe transport and storage (e.g., drums/reels, strapping and protective materials, as applicable).

Process losses and internal metal scrap generated during production (e.g., start-up material, trimming, and off-spec material) are collected and managed within the metal flow; these materials are not treated as sold co-products within the declared product system.

The EPD models Modules A1–A3 (raw material supply, transport to the manufacturing site, and on-site manufacturing), C1–C4 (end-of-life removal, transport, waste processing, and disposal for the non-recoverable fraction), and Module D (potential benefits from recycling of aluminium at end-of-life substituting primary aluminium production).

Name and location of production site(s): Coreal Alüminyum Kablo San. Tic. A.Ş Kayseri Serbest Bölgesi 5.Cadde No:3, 38070 Melikgazi/Kayseri -

Covered products:

This EPD covers AAAC Bare Aluminium Conductors – Type AL7 (AlMgSi) 594-AL7 and Type AL59 910-AL59 manufactured by Coreal Alüminyum Kablo San. Tic. A.Ş. at a single production facility in Türkiye. Both covered conductor types are produced using the same core manufacturing route, including metal preparation and alloy control as required, casting and wire-rod formation, wire drawing, stranding into the final conductor construction, and packaging on reels/drums.

Under identical system boundaries and modelling assumptions, the covered products are represented using an averaged production model based on a declared unit of 1 tonne (1,000 kg) of finished AAAC bare aluminium conductor. The differences between the covered product types relate primarily to alloy grade and conductor design/cross-sectional area; these differences do not change the defined life cycle stages covered by the EPD or the declared product system boundary unless otherwise specified in the LCA methodology. This EPD does not claim compliance with ISO 21930.

## CONTENT DECLARATION

- The mass (weight) of one unit of a product, as purchased or per declared unit: 1 tonne (1,000 kg) of finished AAAC bare aluminium conductor (Type AL7 (AlMgSi) 594-AL7 and Type AL59 910-AL59), produced, wound onto reels/drums, packaged, and ready for dispatch at the factory gate.
- Information on the environmental and hazardous/toxic properties of substances contained in the product: The declared products are metallic aluminium-alloy conductors. They are manufactured primarily from aluminium, with alloying elements added as required to meet the specified AAAC alloy grades. The products do not contain added binders, resins, coatings, pigments, adhesives, insulation, or chemical surface treatments.
- SVHC statement: No substances listed on the latest REACH Candidate List of Substances of Very High Concern (SVHC) published by ECHA are present above 0.1% (w/w) in the product or its packaging.

Product content	Mass, kg	Post-consumer recycled material, mass-% of product	Biogenic material, mass-% of product	Biogenic material, kg C/product or declared unit
Aluminium Ingot	982	0	0	982
Si-	10	0	0	10
Mg-	5	0	0	5
Fe-	3	0	0	3
<b>TOTAL</b>	<b>1000</b>	<b>0</b>	<b>0</b>	<b>0</b>

Packaging materials	Mass, kg	Mass-% (versus the product)	Biogenic material, kg C/product or declared unit
Wooden reel / drum	100.0	10.00%	44
Stretch film / protective plastic wrapping	2.5	0.25%	0
Cardboard	1.0	0.10%	0.45
Plastic strapping band	0.2	0.02%	0
<b>Sum</b>	<b>103.7</b>	<b>10.37%</b>	<b>44.45</b>

Note: 1 kg biogenic carbon in the product/packaging is equivalent to the uptake of 44/12 kg of CO<sub>2</sub>.

## LCA INFORMATION

Declared unit: 1 tonne (1,000 kg) of AAAC Bare Aluminium Conductors – Type AL7 (AlMgSi) 594-AL7 and Type AL59 910-AL59

Time representativeness: 1 January 2025 – 31 December 2025

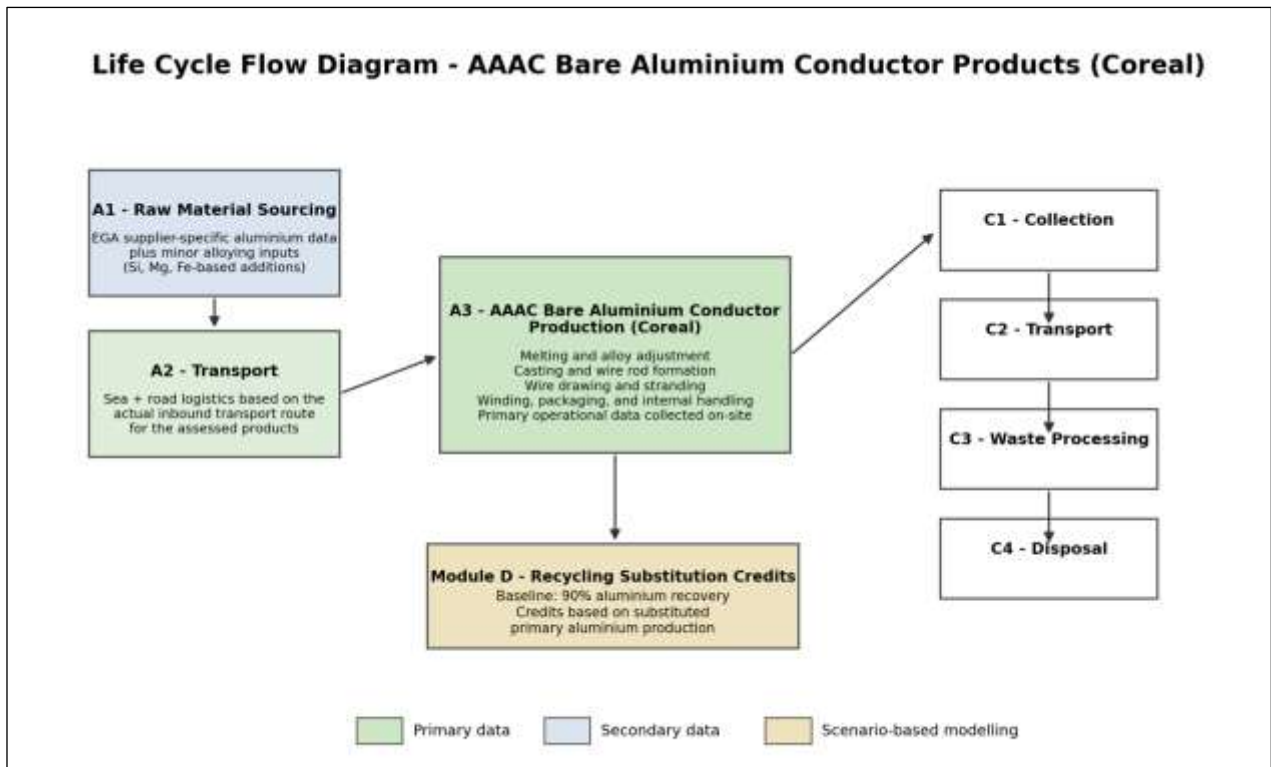
Geographical scope: Global

Database(s) and LCA software used: Ecoinvent v3.11

EPD/LCA Tool used: SimaPro 10.2 Craft

Description of system boundaries: Cradle to gate with options, modules A1–A3, modules C1–C4, module D (A1–A3 + C1–C4 + D; Module).

**Process flow diagram:**



**More information:**

Allocation was not applied in this study. AAAC conductor manufacturing includes internal process losses and internal metal scrap generated during start-up, trimming, and off-spec production. This internal scrap is not treated as a sold co-product within the declared product system; it is handled as an internal material flow (collected for re-melting/return to process or managed through internal recovery routes, as applicable). Therefore, no allocation is applied and 100% of the burdens remain assigned to the declared product (AAAC bare aluminium conductor), in line with the applied modelling approach. The declared product is a single-metal aluminium-alloy product. Any recycled content claim is not made unless explicitly supported by verified input material documentation and the applied recycled content method.

**Cut-off rules / excluded processes:** Infrastructure and capital goods (e.g., melting furnaces, CCR line, wire drawing and stranding equipment, cranes/forklifts, factory buildings and fixed infrastructure) were excluded in accordance with PCR 2019:14 v2.0.1. Any infrastructure-related burdens already embedded within background datasets were retained.

**Electricity modelling (A3):** Electricity consumed in Module A3 is supplied by Türkiye's national electricity grid and modelled using the relevant Türkiye grid electricity dataset from ecoinvent v3.11 (cut-off system model). All electricity-related emissions and impacts are therefore accounted for directly within the selected ecoinvent dataset(s). No separate national grid emission factor is applied in the LCA calculations.

**Primary-Secondary Data**

**A1 – Upstream aluminium ingot supply (raw material production):**

Represented by secondary data, using background modelling based on ecoinvent v3.11 datasets for primary aluminium production. Where supplier-provided upstream environmental profiles are available for key aluminium inputs, these are treated as secondary upstream data within the A1 modelling; upstream processes are not based on site-specific primary measurements performed by Coreal.

### **A2 – Transport and auxiliaries:**

Represented by secondary data using ecoinvent v3.11 freight transport datasets (road and/or sea transport, as applicable) to model inbound logistics of aluminium and other minor inputs to the manufacturing site, as well as supporting transports for auxiliary and packaging materials.

### **A3 – Manufacturing at Coreal:**

Based on site-specific primary data collected at Coreal for the reporting period 1 January 2025 – 31 December 2025, covering key operational inputs and outputs for AAAC bare conductor production, including electricity consumption across melting/metal preparation, CCR (wire-rod formation), wire drawing, and stranding operations; alloying inputs as required by the declared alloy grades; packaging and handling materials; and quantified internal process losses/internal metal scrap handling within the production system (no co-product allocation).

### **Overall share of primary data (A1–A3):**

Primary data are concentrated in Module A3, while Modules A1–A2 are modelled using secondary background datasets. The overall primary-data share across A1–A3 is therefore driven by the manufacturing stage and is considered appropriate for third-party verified EPD development under EN 15804 and PCR 2019:14 v2.0.1.

### **End-of-life scenario:**

At end-of-life, the aluminium alloy conductor is assumed to be removed and handled using diesel-powered mechanical equipment, such as lifting, loading, and site handling operations. No complex dismantling or energy-intensive disassembly is required due to the product's simple metallic structure and the absence of bonded multi-material components. Modelled process: diesel-based mechanical handling (forklift / site handling type operation) and transported to a treatment facility. A default transport distance of 80 km is applied for Module C2. In the declared end-of-life scenario, 90% of the aluminium material is effectively recycled, while 10% is landfilled as residual or contaminated scrap, in line with conservative EU-wide averages.

Module C3 includes the waste processing required for the recycling fraction (e.g., collection, sorting, shredding/size reduction and preparation for secondary aluminium production), and Module C4 includes disposal (landfill) of the non-recoverable fraction. Module D applies the substitution method under EN 15804:2012+A2:2019, crediting avoided burdens by assuming that recovered aluminium substitutes an equivalent amount of primary aluminium production.

Environmental impacts were calculated using ecoinvent v3.11 datasets and characterized according to EN 15804:2012+A2:2019, applying the Environmental Footprint (EF) 3.1 reference package. In accordance with PCR 2019:14 v2.0.1 (including Annex 2 guidance), additional 100% recycling and 100% landfill scenarios have also been modelled and are reported in Annex 2 (Alternative End-of-Life Scenarios) for completeness.

All end-of-life modelling and the Module D substitution approach are applied in line with EN 15804:2012+A2:2019 and PCR 2019:14 v2.0.1 (including Annex 2 guidance).

**Definition note:**

The declared recycling share refers to effective end-of-life recovery in the sense of EN 15804:2012+A2:2019 (Annex D), i.e., the share of the declared unit that enters a recovery/recycling operation and becomes a usable secondary material. This metric may not be directly comparable to generic tabulations that apply different definitions, scopes, or indicators across mixed material streams.

**Annex 1. Alternative End-of-Life Scenarios (Informative)**

Scenario	C1	C2	C3	C4	Module D	Description / Remarks
<b>Declared (Mix)</b>	As modelled in main results	As modelled (default C2 transport distance: 80 km)	90% recycling	10% landfill	As reported in main tables	Default declared EoL scenario, reflecting typical practice for aluminium products where high recovery is achieved and a small residual fraction is lost/contaminated.
<b>100 % Recycling</b>	Same as declared	Same as declared	100% recycling	0% landfill	Substitution credit increases due to full recovery of aluminium; other indicators change only marginally.	Idealised scenario assuming complete recovery of aluminium and recycling into usable secondary aluminium (end-of-waste achieved).
<b>100 % Landfill</b>	Same as declared	Same as declared	0% recycling	100% landfill	No substitution credit (Module D = 0).	Conservative scenario assuming no material recovery; used for sensitivity and transparency.

**Modules declared, geographical scope, share of primary data (in GWP-GHG results) and data variation (in GWP-GHG results):**

	Product stage			Distribution/ installation stage		Use stage							End-of-life stage				Beyond product life cycle
	Raw material supply	Transport	Manufacturing	Transport	Construction installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	
Module	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Modules declared	X	X	X	ND	ND	ND	ND	ND	ND	ND	ND	ND	X	X	X	X	X
Geography	ROW	ROW	TR	-	-	-	-	-	-	-	-	-	ROW	ROW	ROW	ROW	ROW
Share of primary data	≈2.33%					-	-	-	-	-	-	-	-	-	-	-	-
Variation – products	Negligible (<10%) – production-weighted average used					-	-	-	-	-	-	-	-	-	-	-	-
Variation – sites	Single site – no variation					-	-	-	-	-	-	-	-	-	-	-	-

Process	Source type	Source	Reference year	Data category	Share of primary data, of GWP-GHG results for A1-A3
Manufacturing of product (melting + CCR + wire drawing + stranding + packaging on reels/drums)	Collected data	Coreal (on-site)	01 Jan 2025 – 31 Dec 2025	Primary data	≈2.33%
Electricity used in manufacturing (incl. grid electricity and on-site PV where applicable)	Collected activity data + Database (ecoinvent v3.11)	Electricity consumption (Coreal, on-site) + Türkiye grid electricity dataset(s) from ecoinvent v3.11 (cut-off); PV electricity modelled separately as applicable	2025 (activity data)	Primary data (activity) / Secondary data (background)	included in A3
Natural gas used in manufacturing (thermal processes)	Collected activity data + Database (ecoinvent v3.11)	Natural gas consumption (Coreal, on-site) + relevant ecoinvent v3.11 datasets (cut-off)	2025	Primary data (activity) / Secondary data (background)	included in A3
Transport of aluminium input and auxiliaries (A2)	Database (route-based)	ecoinvent v3.11 transport datasets (sea + road)	2025	Secondary data	≈1.52%
Upstream aluminium production (A1 – supplier)	Supplier EPD values	EGA aluminium input EPD values	As declared in EGA EPD	Secondary data (EPD-based upstream)	≈96.15%
Production of packaging materials	Database	ecoinvent v3.11	as per database	Secondary data	included in A3
Total share of primary data, of GWP-GHG results for A1–A3					2.33%

**Note:**

“The reported share of primary data is associated with uncertainty, as an EPD used as data source lacks information on the share of primary data.”

## ENVIRONMENTAL PERFORMANCE

### LCA results of the product(s) - main environmental performance results

#### Mandatory impact category indicators according to EN 15804

Results per functional or declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
GWP-Total	kg CO <sub>2</sub> eq.	1.11E+04	3.97E-01	8.63E+00	5.24E+01	2.57E+00	-2.00E+04
GWP-Fossil	kg CO <sub>2</sub> eq.	1.10E+04	3.97E-01	8.63E+00	3.39E+01	2.55E+00	-2.00E+04
GWP-Biogenic	kg CO <sub>2</sub> eq.	0.00E+00	4.34E-05	2.95E-04	1.84E+01	1.69E-02	6.66E+01
GWP-Luluc	kg CO <sub>2</sub> eq.	1.84E+00	3.45E-05	3.45E-03	7.93E-02	3.17E-03	-2.68E+01
ODP	kg CFC 11 eq.	1.15E-05	6.07E-09	1.27E-07	5.91E-07	4.65E-08	-9.45E-05
AP	mol H <sup>+</sup> eq.	3.71E+00	3.58E-03	2.94E-02	2.29E-01	1.47E-02	-1.30E+02
EP-Freshwater	kg P eq.	1.12E+01	1.16E-05	6.78E-04	4.92E-03	4.04E-04	-5.73E+00
EP- Marine	kg N eq.	7.49E+00	1.66E-03	9.66E-03	9.46E-02	6.29E-03	-2.18E+01
EP-Terrestrial	mol N eq.	1.02E+01	1.82E-02	1.05E-01	1.02E+00	5.56E-02	-2.27E+02
POCP	kg NMVOC eq.	5.38E+00	5.42E-03	4.33E-02	3.14E-01	1.74E-02	-6.91E+01
ADP-minerals&metals*	kg Sb eq.	1.04E-03	1.42E-07	2.35E-05	9.63E-05	6.60E-06	-1.23E-02
ADP-fossil*	MJ	1.60E+05	5.19E+00	1.25E+02	5.26E+02	4.31E+01	-1.84E+05
WDP*	m <sup>3</sup>	1.19E+02	1.12E-02	6.41E-01	1.09E+01	-1.65E+01	-2.08E+03
Acronyms	GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential. Accumulated Exceedance; EP-freshwater = Eutrophication potential. fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential. fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential. Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential. deprivation-weighted water consumption						

**Disclaimer:** The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experience with the indicator. The negative WDP result reported for Module C4 was checked against the model output and originates from the selected background landfill dataset used for the residual aluminium fraction. It is therefore not related to manufacturing-stage closed-loop water use at the production site.

Packaging materials used at the factory gate may include wooden components (e.g., wooden reels/drums and/or pallets) that contain biogenic carbon. Where relevant, a moisture content of 12% and a biogenic carbon fraction of 0.5 are applied to wooden packaging. This may lead to a negative

contribution to the GWP-biogenic indicator at the product stage due to temporary biogenic CO<sub>2</sub> uptake. However, as this EPD is declared as A1–A3 + C1–C4 + D (i.e., no A4 and no A5; the use stage is outside the system boundary), the end-of-life treatment of packaging is not modelled within the declared life cycle stages. Therefore, for reporting purposes, a balancing approach is applied to close the biogenic carbon balance over the declared system boundary, and no biogenic carbon storage claim is made for the declared product.

## Additional mandatory and voluntary impact category indicators

Results per functional or declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
GWP-GHG <sup>1</sup>	kg CO <sub>2</sub> eq.	1.12E+04	3.97E-01	8.63E+00	3.40E+01	2.56E+00	-2.01E+04
Additional voluntary indicators e.g. the voluntary indicators from EN 15804 or the global indicators according to ISO 21930:2017							
(PM)	Disease incidence	1.23E-04	1.02E-07	8.63E-07	4.48E-06	2.70E-07	-1.67E-03
(IRP)	kBq U235 eq.	9.68E+00	2.33E-03	1.11E-01	4.97E-01	9.48E-02	-1.51E+02
(ETP-fw)	CTUe	7.74E+03	1.47E+00	6.04E+01	2.84E+03	3.52E+04	-1.09E+05
(HTP-c)	CTUh	1.75E-05	3.10E-09	8.57E-08	7.23E-07	2.63E-08	-6.60E-05
(HTP-nc)	CTUh	7.38E-06	1.28E-09	1.61E-07	6.40E-07	7.96E-07	-2.61E-04
(SQP)	Dimensionless	2.02E+04	3.65E-01	1.26E+02	5.31E+02	6.61E+01	-3.51E+04

## Resource use indicators

Results per functional or declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
PERE	MJ	2.65E+03	3.09E-02	1.59E+00	8.30E+00	1.24E+00	-1.10E+04
PERM	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ	2.65E+03	3.09E-02	1.59E+00	8.30E+00	1.24E+00	-1.10E+04
PENRE	MJ	1.02E+04	5.19E+00	1.25E+02	5.27E+02	4.31E+01	-1.84E+05
PENRM	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PENRT	MJ	1.02E+04	5.19E+00	1.25E+02	5.27E+02	4.31E+01	-1.84E+05
SM	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NRSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	m <sup>3</sup>	1.19E+02	1.14E-02	6.44E-01	1.09E+01	-1.65E+01	-2.13E+03
Acronyms	PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources used as raw materials; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy re-sources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water						

<sup>1</sup> This indicator accounts for all greenhouse gases except biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. As such, the indicator is identical to GWP-total except that the CF for biogenic CO<sub>2</sub> is set to zero.

## Waste indicators

Results per functional or declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
Hazardous waste disposed	kg	3.06E-02	4.46E-06	1.46E-04	1.63E+00	2.56E-01	-3.12E+00
Non-hazardous waste disposed	kg	1.61E-01	3.37E-05	1.09E-03	1.74E+00	5.45E-01	-1.32E+00
Radioactive waste disposed	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

## Output flow indicators

Results per functional or declared unit							
Indicator	Unit	A1-A3	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
Material for recycling	kg	0.00E+00	0.00E+00	0.00E+00	9.00E+00	0.00E+00	0.00E+00
Materials for energy recovery	kg	0.00E+00	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	0.00E+00
Exported energy, thermal	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

## Additional LCA results (Other Environmental Performance Results) of The Product(s)

### Model scope and time horizon

The study follows EN 15804:2012+A2:2019 with a Cradle-to-Gate with End-of-Life and Module D (Type a) system boundary. The declared modules are A1–A3, C1–C4, and Module D (Module A4 is not declared). Impact assessment uses a 100-year time horizon.

End-of-life modelling assumes C1: removal/dismantling of the end-of-life conductor using diesel-powered mechanical equipment; C2: 80 km road transport to treatment; C3: recycling of 90% of the aluminium material (including the required processing steps to prepare scrap for secondary aluminium production); C4: disposal (landfill) of the remaining 10% as residual/contaminated scrap; and Module D credits calculated via the substitution method by assuming that recovered aluminium substitutes an equivalent amount of primary aluminium production.

### Cut-off criteria and exclusions

In line with EN 15804 and PCR 2019:14 v2.0.1, individual flows below 1% may be excluded provided the sum of excluded flows does not exceed 5% of total mass and energy and no environmentally relevant flows are omitted. The model is intended to cover at least 95% of total mass and energy flows within the defined system boundary.

Office/administrative activities and capital goods (plant, equipment and buildings) are excluded; their contribution per declared unit is considered negligible. Embedded infrastructure burdens already contained within background datasets (e.g., electricity generation, fuel supply, transport and waste treatment processes) remain included through those datasets.

## Allocation rules

### A1 – Raw material supply:

Upstream aluminium production is modelled using secondary background data (ecoinvent v3.11) and, where applicable, supplier-provided upstream environmental profile data for the main aluminium input. No co-products are modelled within the A1 system boundary of this study; therefore, no allocation is applied in A1.

### A3 – Manufacturing

AAAC bare aluminium conductors (Type AL7 (AlMgSi) 594-AL7 and Type AL59 910-AL59) are manufactured through metal preparation and alloy control as required, casting and wire-rod formation (CCR), wire drawing, stranding, inspection, and packaging on reels/drums at the factory gate. The manufacturing system includes internal process losses and internal metal scrap (e.g., start-up material, trimming, and off-spec material). These internal metal flows are not treated as sold co-products within the declared product system. In line with the selected modelling approach, internal scrap is handled as an internal material flow within the production system (collected for re-melting/return to process or managed through internal recovery routes, as applicable), and 100% of the A1–A3 burdens are assigned to the declared product (AAAC bare aluminium conductor). Module A4 is not declared in this study.

### Waste stream allocation

Internal metal scrap generated during manufacturing is treated as an internal material flow and does not receive any Module D credit within the product stage. Packaging is included in the product stage as an input; however, its end-of-life treatment is not modelled within the declared system boundary unless explicitly included in the declared modules.

### Losses, waste, and end-of-life (C-modules and D)

The declared end-of-life scenario assumes collection of the aluminium product after use and includes the following treatments:

- C2: 80 km road transport to a treatment facility
- C3: 90% of the aluminium material is assumed to be effectively recovered and recycled, including the required processing steps to prepare scrap for secondary aluminium production (e.g., collection, sorting, and pre-processing)
- C4: 10% is disposed of as residual/contaminated scrap (landfill)

**Module D** reports the net environmental benefits from substituting primary aluminium with recovered aluminium material, using the substitution method under EN 15804:2012+A2:2019. End-of-waste criteria and the “polluter pays” principle are applied in accordance with EN 15804 and PCR 2019:14 v2.0.1.

### Data sources and data quality

**Primary data (site-specific):** Module A3 — electricity (and other energy carriers, where applicable) consumption for on-site manufacturing operations (metal preparation and alloy control as required, casting and wire-rod formation, wire drawing, stranding, internal handling and packaging on reels/drums), packaging and handling materials, and quantified internal process losses/internal metal scrap handling — collected from Coreal for the reporting period 1 January 2025 – 31 December 2025.

**Secondary data:** Modules A2, C1–C4 and D — modelled using ecoinvent v3.11 (cut-off system model). Transport (road and sea, as applicable), waste processing, disposal, and substitution processes are represented using consistent background datasets.

**Supplier-specific upstream data (A1):** Upstream aluminium production is modelled using supplier-provided upstream environmental profile data for the main aluminium input, where available. Where required for background processes not explicitly covered by supplier-provided upstream information, consistent supporting datasets from Ecoinvent v3.11 are applied.

### Unit processes by module

**A1 – Raw material supply:** Upstream aluminium production is modelled using secondary background data (ecoinvent v3.11) and, where applicable, supplier-provided upstream environmental profile data for the main aluminium input used in the declared products.

**A2 – Transport to manufacturing:** Transport of aluminium and minor inputs (e.g., alloying inputs as required and packaging/handling materials) from supplier logistics points to the Coreal manufacturing site is modelled using representative background freight datasets (road and/or sea transport, as applicable) based on the defined inbound transport routes.

#### **A3 – Manufacturing:**

On-site manufacturing includes metal preparation and alloy control as required, casting and wire-rod formation (CCR), wire drawing, stranding, inspection, and packaging on reels/drums at the factory gate. On-site consumption includes electricity for production equipment, auxiliaries and handling, and auxiliary materials used in production. Internal process losses/internal metal scrap generated during manufacturing (e.g., start-up material, trimming, off-spec material) are handled as internal metal flows (collected for re-melting/return to process or managed through internal recovery routes, as applicable) and do not trigger co-product allocation.

**C1–C4 – End-of-life:** Removal and collection are assumed to be low-intensity. C2: 80 km road transport to a treatment facility. C3: effective recycling of 90% of the aluminium material (including collection, sorting, and pre-processing steps required to prepare scrap for secondary aluminium production). C4: disposal (landfill) of the remaining 10% as residual/contaminated scrap.

**Module D – Beyond the system boundary:** Net benefits from substituting primary aluminium with recovered aluminium material are calculated using the substitution method under EN 15804:2012+A2:2019.

### Sensitivity and uncertainty (qualitative)

Results are most sensitive to the upstream modelling choice and the energy-related assumptions in A3:

- **Upstream data choice (A1 – aluminium ingot):** Using a different upstream dataset for primary aluminium production and/or updated supplier-specific upstream information (if revised in the future) would change the A1 contribution and therefore the total A1–A3 results. As A1 typically dominates the cradle-to-gate climate results for aluminium products, this parameter is the main driver of uncertainty.
- **Energy use in A3 (electricity and fuels):** Higher electricity consumption and/or a more carbon-intensive electricity supply represented by the selected background dataset(s) would increase GWP, while lower electricity demand and/or a lower-carbon electricity supply would decrease GWP. Any changes in the use of other energy carriers (where applicable) and the corresponding background emission profiles would also directly affect A3 impacts.
- **Transport (A2):** Variations in inbound transport routes and distances (sea/road shares, port logistics, and last-mile road distance) influence A2 results, but typically have a comparatively minor influence on total A1–A3 results compared to A1 and A3.
- **Module D assumptions (recycling and substitution):** The assumed effective recycling share and the substitution reference (primary aluminium avoided) have a moderate to high effect on Module D results. Alternative end-of-life scenarios (e.g., 100% recycling and 100% landfill) are used to illustrate the sensitivity of the C-modules and Module D to end-of-life assumptions.

### Multiple products & variation

This EPD covers AAAC Bare Aluminium Conductors – Type AL7 (AlMgSi) 594-AL7 and Type AL59 910-AL59 manufactured at a single Coreal production facility using the same core manufacturing route (metal preparation and alloy control as required, casting and wire-rod formation, wire drawing, stranding, and packaging on reels/drums at the factory gate), under identical system boundaries, technologies, and modelling assumptions.

Although the covered products differ in alloy grade and conductor design (including nominal cross-sectional area), the declared products are represented using an averaged production model based on a declared unit of 1 tonne (1,000 kg) of finished AAAC bare aluminium conductor. The EPD does not claim compliance with ISO 21930; therefore, reporting of indicator-specific variations above 10% is not required. Where applicable, conservative assumptions are applied to ensure robust and transparent results (e.g., consistent background datasets for transport and end-of-life processes, and documented end-of-life scenario assumptions).

The declared end-of-life scenario for this EPD is a mixed end-of-life route (90% recycling and 10% landfill), reflecting typical practice for aluminium products with high recovery rates and a small residual/contaminated fraction. PCR 2019:14 v2.0.1 requires that EPDs based on mixed scenarios also disclose the full results for the two extreme end-of-life cases: (i) 100% recycling and (ii) 100% landfill. Therefore, the alternative scenario table reports the complete EN 15804:2012+A2:2019 impact results for modules C1–C4 and Module D under these two additional scenarios, enabling full transparency and comparability.

## Additional End-of-Life Scenario Results (100% Recycling)

### Mandatory impact category indicators according to EN 15804

Results per functional or declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
GWP-Total	kg CO <sub>2</sub> eq.	1.11E+04	3.97E-01	8.63E+00	5.82E+01	0.00E+00	-2.22E+04
GWP-Fossil	kg CO <sub>2</sub> eq.	1.10E+04	3.97E-01	8.63E+00	3.77E+01	0.00E+00	-2.22E+04
GWP-Biogenic	kg CO <sub>2</sub> eq.	0.00E+00	4.34E-05	2.95E-04	2.05E+01	0.00E+00	7.40E+01
GWP-Luluc	kg CO <sub>2</sub> eq.	1.84E+00	3.45E-05	3.45E-03	8.81E-02	0.00E+00	-2.98E+01
ODP	kg CFC 11 eq.	1.15E-05	6.07E-09	1.27E-07	6.57E-07	0.00E+00	-1.05E-04
AP	mol H <sup>+</sup> eq.	3.71E+00	3.58E-03	2.94E-02	2.54E-01	0.00E+00	-1.44E+02
EP-Freshwater	kg P eq.	1.12E+01	1.16E-05	6.78E-04	5.46E-03	0.00E+00	-6.37E+00
EP- Marine	kg N eq.	7.49E+00	1.66E-03	9.66E-03	1.05E-01	0.00E+00	-2.42E+01
EP-Terrestrial	mol N eq.	1.02E+01	1.82E-02	1.05E-01	1.14E+00	0.00E+00	-2.53E+02
POCP	kg NMVOC eq.	5.38E+00	5.42E-03	4.33E-02	3.49E-01	0.00E+00	-7.68E+01
ADP-minerals&metals*	kg Sb eq.	1.04E-03	1.42E-07	2.35E-05	1.07E-04	0.00E+00	-1.37E-02
ADP-fossil*	MJ	1.60E+05	5.19E+00	1.25E+02	5.85E+02	0.00E+00	-2.05E+05
WDP*	m <sup>3</sup>	1.19E+02	1.12E-02	6.41E-01	1.21E+01	0.00E+00	-2.31E+03
Acronyms	GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential. Accumulated Exceedance; EP-freshwater = Eutrophication potential. fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential. fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential. Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential. deprivation-weighted water consumption						

## Additional mandatory and voluntary impact category indicators

Results per functional or declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
GWP-GHG <sup>2</sup>	kg CO <sub>2</sub> eq.	1.12E+04	3.97E-01	8.63E+00	3.78E+01	0.00E+00	-2.23E+04
Additional voluntary indicators e.g. the voluntary indicators from EN 15804 or the global indicators according to ISO 21930:2017							
(PM)	Disease incidence	1.23E-04	1.02E-07	8.63E-07	4.98E-06	0.00E+00	-1.85E-03
(IRP)	kBq U235 eq.	9.68E+00	2.33E-03	1.11E-01	5.53E-01	0.00E+00	-1.68E+02
(ETP-fw)	CTUe	7.74E+03	1.47E+00	6.04E+01	3.15E+03	0.00E+00	-1.21E+05
(HTP-c)	CTUh	1.75E-05	3.10E-09	8.57E-08	8.03E-07	0.00E+00	-7.33E-05
(HTP-nc)	CTUh	7.38E-06	1.28E-09	1.61E-07	7.11E-07	0.00E+00	-2.90E-04
(SQP)	Dimensionless	2.02E+04	3.65E-01	1.26E+02	5.90E+02	0.00E+00	-3.90E+04

## Resource use indicators

Results per functional or declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
PERE	MJ	2.65E+03	3.09E-02	1.59E+00	9.22E+00	0.00E+00	-1.22E+04
PERM	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ	2.65E+03	3.09E-02	1.59E+00	9.22E+00	0.00E+00	-1.22E+04
PENRE	MJ	1.02E+04	5.19E+00	1.25E+02	5.85E+02	0.00E+00	-2.05E+05
PENRM	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PENRT	MJ	1.02E+04	5.19E+00	1.25E+02	5.85E+02	0.00E+00	-2.05E+05
SM	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NRSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	m <sup>3</sup>	1.19E+02	1.14E-02	6.44E-01	1.22E+01	0.00E+00	-2.36E+03
Acronyms	PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy re-sources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water						

<sup>2</sup> This indicator accounts for all greenhouse gases except biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. As such, the indicator is identical to GWP-total except that the CF for biogenic CO<sub>2</sub> is set to zero.

## Waste indicators

Results per functional or declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
Hazardous waste disposed	kg	3.06E-02	4.46E-06	1.46E-04	1.81E+00	0.00E+00	-3.46E+00
Non-hazardous waste disposed	kg	1.61E-01	3.37E-05	1.09E-03	1.93E+00	0.00E+00	-1.47E+00
Radioactive waste disposed	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

## Output flow indicators

Results per functional or declared unit							
Indicator	Unit	A1-A3	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
Material for recycling	kg	0.00E+00	0.00E+00	0.00E+00	1.00E+03	0.00E+00	0.00E+00
Materials for energy recovery	kg	0.00E+00	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	0.00E+00
Exported energy, thermal	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

**Additional End-of-Life Scenario Results (100% Landfill)**  
**Mandatory impact category indicators according to EN 15804**

Results per functional or declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
GWP-Total	kg CO <sub>2</sub> eq.	1.11E+04	3.97E-01	8.63E+00	0.00E+00	2.57E+01	0.00E+00
GWP-Fossil	kg CO <sub>2</sub> eq.	1.10E+04	3.97E-01	8.63E+00	0.00E+00	2.55E+01	0.00E+00
GWP-Biogenic	kg CO <sub>2</sub> eq.	0.00E+00	4.34E-05	2.95E-04	0.00E+00	1.69E-01	0.00E+00
GWP-Luluc	kg CO <sub>2</sub> eq.	1.84E+00	3.45E-05	3.45E-03	0.00E+00	3.17E-02	0.00E+00
ODP	kg CFC 11 eq.	1.15E-05	6.07E-09	1.27E-07	0.00E+00	4.65E-07	0.00E+00
AP	mol H <sup>+</sup> eq.	3.71E+00	3.58E-03	2.94E-02	0.00E+00	1.47E-01	0.00E+00
EP-Freshwater	kg P eq.	1.12E+01	1.16E-05	6.78E-04	0.00E+00	4.04E-03	0.00E+00
EP- Marine	kg N eq.	7.49E+00	1.66E-03	9.66E-03	0.00E+00	6.29E-02	0.00E+00
EP-Terrestrial	mol N eq.	1.02E+01	1.82E-02	1.05E-01	0.00E+00	5.56E-01	0.00E+00
POCP	kg NMVOC eq.	5.38E+00	5.42E-03	4.33E-02	0.00E+00	1.74E-01	0.00E+00
ADP-minerals&metals*	kg Sb eq.	1.04E-03	1.42E-07	2.35E-05	0.00E+00	6.60E-05	0.00E+00
ADP-fossil*	MJ	1.60E+05	5.19E+00	1.25E+02	0.00E+00	4.31E+02	0.00E+00
WDP*	m <sup>3</sup>	1.19E+02	1.12E-02	6.41E-01	0.00E+00	-1.65E+02	0.00E+00
Acronyms	GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential. Accumulated Exceedance; EP-freshwater = Eutrophication potential. fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential. fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential. Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential. deprivation-weighted water consumption						

## Additional mandatory and voluntary impact category indicators

Results per functional or declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
GWP-GHG <sup>3</sup>	kg CO <sub>2</sub> eq.	1.12E+04	3.97E-01	8.63E+00	0.00E+00	2.56E+01	0.00E+00
Additional voluntary indicators e.g. the voluntary indicators from EN 15804 or the global indicators according to ISO 21930:2017							
(PM)	Disease incidence	1.23E-04	1.02E-07	8.63E-07	0.00E+00	2.70E-06	0.00E+00
(IRP)	kBq U235 eq.	9.68E+00	2.33E-03	1.11E-01	0.00E+00	9.48E-01	0.00E+00
(ETP-fw)	CTUe	7.74E+03	1.47E+00	6.04E+01	0.00E+00	3.52E+05	0.00E+00
(HTP-c)	CTUh	1.75E-05	3.10E-09	8.57E-08	0.00E+00	2.63E-07	0.00E+00
(HTP-nc)	CTUh	7.38E-06	1.28E-09	1.61E-07	0.00E+00	7.96E-06	0.00E+00
(SQP)	Dimensionless	2.02E+04	3.65E-01	1.26E+02	0.00E+00	6.61E+02	0.00E+00

## Resource use indicators

Results per functional or declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
PERE	MJ	2.65E+03	3.09E-02	1.59E+00	0.00E+00	1.24E+01	0.00E+00
PERM	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ	2.65E+03	3.09E-02	1.59E+00	0.00E+00	1.24E+01	0.00E+00
PENRE	MJ	1.02E+04	5.19E+00	1.25E+02	0.00E+00	4.31E+02	0.00E+00
PENRM	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PENRT	MJ	1.02E+04	5.19E+00	1.25E+02	0.00E+00	4.31E+02	0.00E+00
SM	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NRSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	m <sup>3</sup>	1.19E+02	1.14E-02	6.44E-01	0.00E+00	-1.65E+02	0.00E+00
Acronyms	PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy re-sources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water						

<sup>3</sup> This indicator accounts for all greenhouse gases except biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. As such, the indicator is identical to GWP-total except that the CF for biogenic CO<sub>2</sub> is set to zero.

## Waste indicators

Results per functional or declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
Hazardous waste disposed	kg	3.06E-02	4.46E-06	1.46E-04	0.00E+00	2.56E+00	0.00E+00
Non-hazardous waste disposed	kg	1.61E-01	3.37E-05	1.09E-03	0.00E+00	5.45E+00	0.00E+00
Radioactive waste disposed	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

## Output flow indicators

Results per functional or declared unit							
Indicator	Unit	A1-A3	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
Material for recycling	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for energy recovery	kg	0.00E+00	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	0.00E+00
Exported energy, thermal	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

## ADDITIONAL ENVIRONMENTAL INFORMATION

No additional environmental information is declared for this EPD.

## ADDITIONAL SOCIAL AND ECONOMIC INFORMATION

No additional social or economic information is declared for this EPD.

## INFORMATION RELATED TO SECTOR EPD

*Not applicable. This EPD is company-specific and does not represent a sector-wide declaration.*

## ABBREVIATIONS

Abbreviation	Definition
<b>General Abbreviations</b>	
EN	European Norm (Standard)
ISO	International Organization for Standardization
CEN	European Committee for Standardization
GPI	General Programme Instructions
PCR	Product Category Rules
EPD	Environmental Product Declaration
LCA	Life Cycle Assessment
LCIA	Life Cycle Impact Assessment
EF 3.1	Environmental Footprint reference package, version 3.1
GWP	Global Warming Potential
GWP-fossil	Global Warming Potential from fossil sources
GWP-biogenic	Global Warming Potential from biogenic carbon
GWP-luluc	Global Warming Potential from land use and land use change
AP	Acidification Potential
EP-freshwater	Eutrophication Potential (freshwater)
EP-marine	Eutrophication Potential (marine)
EP-terrestrial	Eutrophication Potential (terrestrial)
POCP	Photochemical Ozone Creation Potential
ODP	Ozone Depletion Potential
ADP-fossil	Abiotic Depletion Potential – Fossil Fuels
ADP-minerals & metals	Abiotic Depletion Potential – Minerals & Metals
WDP	Water Deprivation Potential
A1-A3	Product Stage: Raw material supply, Transport, Manufacturing
C1-C4	End-of-Life Stage: Deconstruction, Transport, Waste processing, Disposal
Module D	Beyond the System Boundary – benefits and loads from recycling
DU	Declared Unit
SVHC	Substances of Very High Concern
ND	Not Declared
GHS	Globally Harmonized System of Classification and Labelling of Chemicals
GRI	Global Reporting Initiative
CPC	Central Product Classification
SimaPro	Life Cycle Assessment Software used for modelling
Ecoinvent	Background database used for LCA modelling

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## VERSION HISTORY

**Original Version of the EPD, 2026-04-07**

