

Environmental Product Declaration



In accordance with ISO 14025:2006

ALUMINIUM PRODUCTS

From **Ucín Aluminio S.A.U**



Programme:	The International EPD® System, www.environdec.com
Programme operator:	EPD International AB
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An EPD should provide current information and may be updated if conditions change. The stated validity is therefore subject to the continued registration and publication at www.environdec.com

This is an EPD for multiple products



General information

Programme information

Programme:	The International EPD® System
Address:	EPD International AB Box 210 60 SE-100 31 Stockholm Sweden
Website:	www.environdec.com
E-mail:	info@environdec.com

Product category rules (PCR): PCR 2023:01 FABRICATED METAL PRODUCTS, EXCEPT CONSTRUCTION PRODUCTS Version 1.0
PCR review was conducted by: The Technical Committee of the International EPD®System. See www.environdec.com for a list of members. Review chair: Hüdai Kara. The review panel may be contacted via info@environdec.com
Independent third-party verification of the declaration and data, according to ISO 14025:2006: <input checked="" type="checkbox"/> External <input type="checkbox"/> Internal Covering <input type="checkbox"/> EPD process certification <input checked="" type="checkbox"/> EPD verification
Third party verifier: Tecnalia R&I Certificacion, SL Auditor: Eva Larzabal info@tecnaliacertificacion.com Accredited by: ENAC n°125/C-PR283 accreditation.
Procedure for follow-up of data during EPD validity involves third party verifier: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

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

EPDs within the same product category but registered in different EPD programmes may not be comparable. For two EPDs to be comparable, they must be based on the same PCR (including the same 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 equivalent system boundaries and descriptions of data; apply equivalent data quality requirements, methods of data collection, and allocation methods; apply identical cut-off rules and impact assessment methods (including the same version of characterisation factors); have equivalent content declarations; and be valid at the time of comparison. For further information about comparability, see ISO 14025.

Company information

Owner of the EPD: UCIN ALUMINIO S.A.U

Description of the organisation:

UCIN ALUMINIO is an independent company founded in 1967 by Mr. Jose María Ucín. During all these years the company has lived through different stages, starting the activity by manufacturing aluminium tubes and profiles. In 1974 the company was moved to the actual location, where in an extent of 60.000 m² the complete cycle of aluminium transformation is done. Foundry, hot and cold rolling, tension levelling, cutting and manufacturing of different finished products. The coil width has also been changing during the years from the 500 mm of the beginning, later to the 1000 mm and arriving to the actual 1250 mm. Due to the continuous investments, UCIN ALUMINIO, has included a wide range of different alloys fulfilling efficiently the need of our customers with the maximum quality and a capacity of 35.000 tonnes. In a world of multinationals, UCIN ALUMINIO, offers all these multinationals can't offer: proximity to the costumer, agility and prompt delivery times.

Committed to the environment, continuous investments in this area and the search for solutions with the best available technologies (BREF) prove it. At UCIN ALUMINIO everything is recovered and has value, internal and customer's wastes, scrap, etc. They have a complete manufacturing cycle that allows us to recycle discarded aluminum, which we convert into our raw material to put it back on the market ready for use. Always with the same characteristics as one that comes from primary minerals, but reducing its emissions by up to 90% and fuel consumption (oxy-combustion). In this way they intend to contribute to a sustainable world and a better future for all.

UCIN ALUMINIO has been certified in ISO 9001, EN 1090-1:2009+A1:2011 and EN 15088:2005.

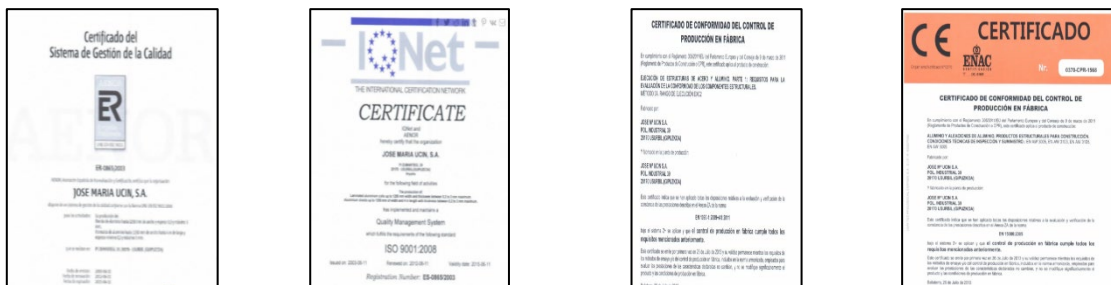


Figure 1. ISO 9001, EN 1090-1:2009+A1:2011 and EN 15088:2005 certifications

Name and location of production site:

UCIN ALUMINIO S.A.U Polígono Industrial Osinalde, Calle Iru cantoi,2, 20170 Usurbil, Gipuzkoa.

Contact :

Rafael Rodrigo.

Email : rodrigo@ucinaluminio.com

More information : www.ucinaluminio.com

Product information

Product name: Aluminium products.

Product description: This EPD covers the life-cycle analysis carried out of aluminium products of UCIN ALUMINIO:

The products under study are made by recycled aluminium. The product are marketed in different formats, such as coils, sheets and strips, of different weights, thicknesses and dimensions. These products are sold in the sizes and alloys required by the customer. The applications of these aluminum products are of great diversity, such as cladding, fences, facades, etc. UCIN Aluminum uses recycled aluminum from 3 different series, the 1000, 3000 and 5000 . All 3 series contain titanium as a common alloy. The difference lies in the fact that in addition to titanium, the 3000 and 5000 series additionally contain the alloys manganese and magnesium.

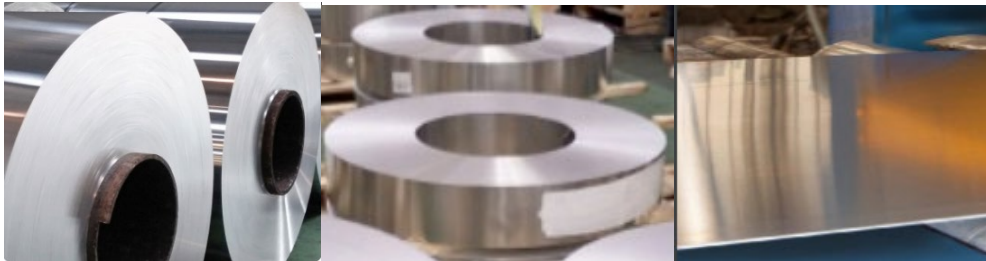


Figure 2. UCIN ALUMINIO products formats: coils, sheets and strips.

The technical characteristics of the 1000, 3000 and 5000 series are shown in the following table:

Table 1: Technical characteristics of the 1000, 3000 and 5000 series aluminum products.

STRENGTH RM (MPA)	SERIE 1000			SERIE 3000				SERIE 5000	
	EN AW-1050	EN AW-1100	EN AW-1200	EN AW-3105	EN AW-3003	EN AW-3103	EN AW-3005	EN AW-5040	EN AW-5005
H111/0	65-95	70-100	75-105	100-155	95-135	90-130	115-165	155-200	100-145
H12	85-125	90-130	95-135	130-180	120-160	115-155	145-195	190-240	125-165
H14	105-145	110-150	115-155	150-200	145-185	140-180	170-215	220-260	145-185
H16	120-160	125-165	130-170	175-225	170-210	160-200	195-240	240-285	165-205
H18	140	145	150	195	190	185	220	260	185
H22	85-125	90-130	95-135	130-180	120-160	115-155	145-195	190-240	125-165
H24	105-145	110-150	115-155	150-200	145-185	140-180	170-215	220-265	145-185
H26	120-160	125-165	130-170	175-225	170-210	160-200	195-240	240-285	165-205
1H28	140	145	-	195	190	188	220	260	185

*En serie 5000 H2X = H3X

UN CPC code: 416-“Other non-ferrous metals and articles thereof (including waste and scrap of some metals); cermets and articles thereof”

LCA information

Declared unit: The declared unit is the baseline reference for which all information is collected. In this study, the declared unit is “**1 tonne of aluminium product manufactured by UCIN ALUMINIO.**”.

Reference service life: Not relevant for this EPD.

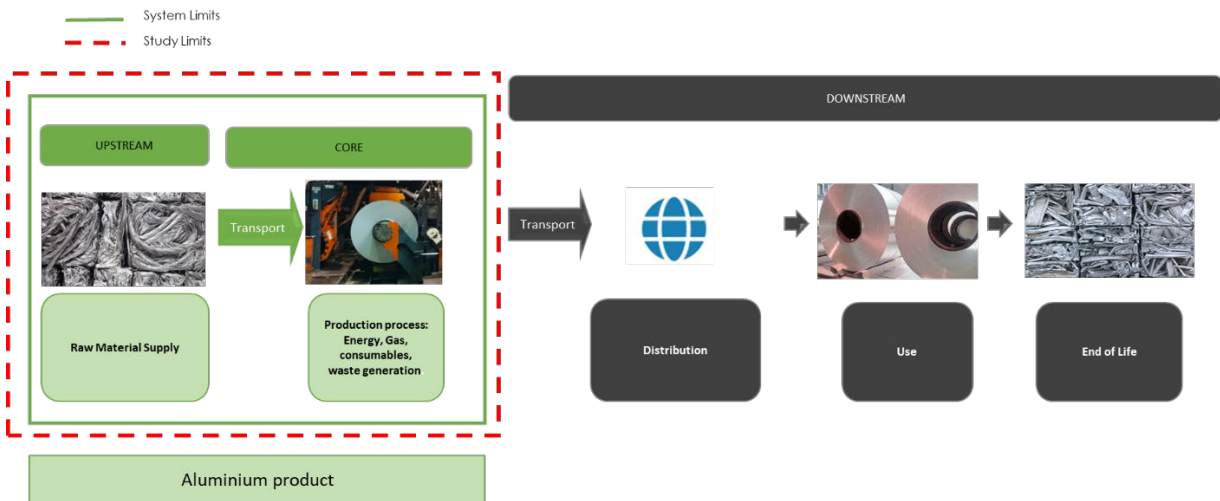
Geographical scope: The geographical scope of this EPD is global.

Time representativeness: The data collection from factory (primary data) and electricity mix are from 2022. In this study, no datasets older than 10 years were used.

Database(s) and LCA software used: All the data used to model the process and obtain the Life Cycle Inventory are specific data and have been obtained by measurements made during the period from 2022. They are representative of the different processes implemented during the manufacturing process. The data has been measured directly at the company's own premises. In addition, the most complete and highest quality European life cycle inventory database, Ecoinvent 3.8, has been used, as this database contains the most extensive and updated information and its scope coincides with the geographical, technological and temporal area of the project. The LCA was modelled with Simapro 9.3.0.3.

Description of system boundaries: According to the PCR 2023:01 FABRICATED METAL PRODUCTS, EXCEPT CONSTRUCTION PRODUCT (version 1.0) the system boundary is cradle to gate with the life cycle stages of UPSTREAM and CORE. The life cycle stage of DOWNSTREAM was excluded from the LCA study.

System diagram:



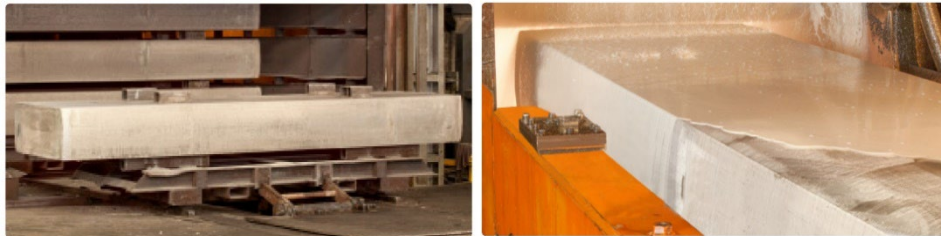
Manufacturing process:

The raw material, mainly scrap, are introduced in to the melting furnace. When the aluminium is heated in the furnace it transforms into aluminium liquid. It is then transferred in to another oven to refine, prepare the alloy and adjust the temperature. When it is done, the liquid aluminium is poured in molds to be cast in to slabs. The molds cast slabs 5 meters long.



Figure 3. 5 meters long aluminium recycled slab

The slabs are then scalped to clean the surfaces and introduced in to a gas oven for preheating and homogenizing the milled slabs prior to been prepared for the hot rolling process. During hot rolling the lamination cylinders reduce the thickness of the slabs and convert the slab in to hot rolled coil after several passes.



The slabs are scalped to clean the surfaces and introduced in to a gas oven for preheating and homogenizing the milled slabs prior to been prepared for the hot rolling process.

After the hot rolled coils are cooled, they are introduced in to the cold rolled mill. It is used special cylinders with the latest technology for fine finish and thickness control. During cold rolling we reduce the hot rolled coils thickness and control the mechanical properties and the thicknesses tolerances requested by the customer.

The coils are introduced in the annealing ovens to achieve the mechanical properties requested from our customers of temperatures in the available ovens.

After the annealing process the coil is tension levelled. This machine removes the tension from the coils and ensures a better flatness and uniformity of the coils surface.

Author of the Life Cycle Assessment:

IK ingeniería

Av. Cervantes 51, Edif. 10, panta 5, dpto.

48970 Basauri, Bizkaia (Spain)

Data quality

The environmental impact of the aluminium products has been calculated. It is based on the international standards established for the development of environmental product declarations, such as ISO 14025 for the preparation of the environmental product declaration, ISO 14040 and ISO 14044 for the preparation of the life cycle analysis and the Product Category Rules PCR - " 2023:01 FABRICATED METAL PRODUCTS, EXCEPT CONSTRUCTION PRODUCT (version 1.0)" of the CPC 416.

Data has been collected from 2022 and is representative of that year. Data for raw material supply, transport to fabrication plant and production (UPSTREAM and CORE) is based on specific consumption data for the factory at Usurbil. Generic background datasets were used for the downstream processes.

SimaPro v9.3.0.3. software was used to prepare the life cycle analysis together with the Ecoinvent 3.8 database. Characterization factors from EN15804: 2012 + A2:2019. The geographical coverage is global. Technological coverage is typical or average.

Assumptions

The modularity principle, as well as the polluter-payer principle have been followed. The following assumptions have been made in this EPD:

- ✓ It does not include the manufacturing processes of the capital goods or spare parts and/or maintenance with a life of more than three years.
- ✓ The environmental impact of infrastructure for general management, office, and headquarters operations is not included.
- ✓ The impact caused by people (common activities, travel for work...) will not be considered.
- ✓ It does not include the consumption of natural gas for sanitary hot water from showers and heating system for the comfort of people.
- ✓ The processes associated with fuel production are intrinsically included in the indicators in ECOINVENT's database used in carrying out the LCA.
- ✓ The environmental impact of external transport has been calculated using lorries from the ECOINVENT 3.8 database, EURO 5. These lorries have been selected to reflect the most realistic scenario possible.

Cut-off rules

The standard ISO 14025 and the PCR -" 2023:01 FABRICATED METAL PRODUCTS, EXCEPT CONSTRUCTION PRODUCT (version 1.0)" indicate that the life cycle inventory data should include a minimum of 99% of the total inputs (materials and energy) for each stage. This cut-off rule does not apply for hazardous materials and substances. No such cut-off criteria have been taken into account in this study.

Allocation

Where necessary, such as waste generation and energy consumption, an allocation based in mass has been used.

Greenhouse gas emission from the use of electricity in the manufacturing phase

One electricity mix of high voltage (direct emissions and losses in grid) are considered for the manufacturing process.

Electricity mix	Amount	Units
Specific electricity mix	5,11E-01	Kg CO2-eqv/kWh

Life cycles stages declared, geographical scope, share of specific data (in GWP-GHG indicator) and data variation:

	UPSTREAM	CORE		DOWNSTREAM		
	Raw materials	Raw materials transport	Manufacture	Distribution	Use	End-life
Life cycle stage declared	X	X		ND		
Geography	EU	EU		-		
Especific data	>90%		-			
Products variation	-10,94%		-			
Variation sites	0%		-			

ND: Not declared

Content information

For each indicator, the highest result of the included products (i.e., the results of a “worst-case product”, which may be the results of one or several of the included products) is declared. The highest result of the included products involves the combination of the aluminium products of the 3000 and 5000 series. Taking account this, the content of these products is collected in the following table.

Components of the product	Series 3000 y 5000		
	Weight, kg	Post-consumer material, weight-%	Renewable material, weight-%
Aluminium scrap	>9,90E+02	>99%	0,00%
Alloying agents	<1,00E+01	0,00%	0,00%
TOTAL	1,00E+03	>99%	0,00%
Packaging materials	Weight, kg	Weight-% (versus the product)	
Wood	1,67E-03	0,17%	
Paper	2,75E-04	0,03%	
Cardboard	7,42E-03	0,74%	
Plastic	4,49E-03	0,45%	
Strap	1,67E-04	0,02%	
Pallet	9,49E-03	0,95%	
TOTAL	2,35E-02	2,35 %	

No substances included in the Candidate List of Substances of Very High Concern for authorization under REACH Regulations are present in the analyzed aluminium products manufactured by UCIN ALUMINIO, either above the threshold for registration with the European Chemicals Agency or above 0,1% (wt/wt).

Environmental Information

For each indicator, the highest result of the included products (i.e., the results of a “worst-case product”, which may be the results of one or several of the included products) is declared. The highest result of the included products involves the combination of the aluminium products of the 3000 and 5000 series.

The estimated impact results are only relative statements, which do not indicate the endpoints of the impact categories, exceeding threshold values, safety margins and/or risks.

Impact category indicators

PARAMETER		UNIT	Upstream	Core	TOTAL
Global warming potential (GWP)	Fossil	kg CO ₂ eq.	8,83E+01	4,69E+02	5,58E+02
	Biogenic	kg CO ₂ eq.	2,28E-01	1,73E-01	4,01E-01
	Land use and land transformation	kg CO ₂ eq.	3,95E-01	1,13E-01	5,08E-01
	TOTAL	kg CO ₂ eq.	8,90E+01	4,70E+02	5,59E+02
Ozone layer depletion (ODP)		kg CFC 11 eq.	4,91E-06	1,37E-04	1,42E-04
Acidification potential (AP)		mol H ⁺ eq.	5,03E-01	2,22E+00	2,73E+00
Eutrophication potential (EP)	Aquatic freshwater	kg P eq.	4,41E-03	3,74E-03	8,15E-03
	Aquatic marine	kg N eq.	1,05E-01	6,38E-01	7,43E-01
	Aquatic terrestrial	mol N eq.	1,18E+00	6,43E+00	7,60E+00
Photochemical oxidant creation potential (POCP)		kg NMVOC eq.	4,18E-01	2,08E+00	2,50E+00
Abiotic depletion potential (ADP)*	Metals and minerals	kg Sb eq.	3,28E-04	6,28E-04	9,56E-04
	Fossil resources	MJ, net calorific value	1,30E+03	1,64E+04	1,77E+04
Water deprivation potential (WDP)*		m ³ world eq. deprived	2,57E+01	1,92E+02	2,18E+02

* Disclaimer: The results of this environmental impact indicator shall be used with care as the uncertainties of these results are high or as there is limited experience with the indicator.

Resource use indicators

PARAMETER		UNIT	Upstream	Core	TOTAL
Primary energy resources – Renewable	Use as energy carrier	MJ, net calorific value	2,60E+02	1,14E+02	3,74E+02
	Used as raw materials	MJ, net calorific value	1,46E+02	0,00E+00	1,46E+02
	TOTAL	MJ, net calorific value	4,05E+02	1,14E+02	5,19E+02
Primary energy resources – Non-renewable	Use as energy carrier	MJ, net calorific value	1,21E+03	1,64E+04	1,76E+04
	Used as raw materials	MJ, net calorific value	9,36E+01	0,00E+00	9,36E+01
	TOTAL	MJ, net calorific value	1,30E+03	1,64E+04	1,77E+04

Additional information

More information : www.ucinaluminio.com

Information related to Sector EPD

This is an individual EPD®

Differences versus previous versions

This is the second version of the EPD®. The values of the table ***impact category indicators*** have been corrected. The rules applying to the EPD have been corrected.

References

- General Programme Instruction of the International EPD®System. Version 4.0.
- ISO 14020:2000 Environmental labels and declarations-General principles.
- ISO 14025:2010 Environmental labels and declarations-Type III Environmental Declarations-Principles and procedures.
- ISO 14040:2006 Environmental Management-Life Cycle Assessment-Principles and framework.
- ISO 14044:2006 Environmental Management-Life Cycle Assessment-Requirements and guidelines.
- PCR 2023 :01 FABRICATED METAL PRODUCTS EXCEPT CONSTRUCTION PRODUCT version 1.0

VERIFICATION STATEMENT CERTIFICATE CERTIFICADO DE DECLARACIÓN DE VERIFICACIÓN

Certificate No. / Certificado nº: EPD09601

TECNALIA R&I CERTIFICACION S.L., confirms that independent third-party verification has been conducted of the Environmental Product Declaration (EPD) on behalf of:

TECNALIA R&I CERTIFICACION S.L., confirma que se ha realizado verificación de tercera parte independiente de la Declaración Ambiental de Producto (DAP) en nombre de:

UCIN ALUMINIO, S.A.U.
Pol. Industrial 39
20170 USURBIL (Gipuzkoa) - SPAIN

for the following product(s):
para el siguiente(s) producto(s):

Aluminium products
Productos de aluminio

with registration number **EPD-IES-0011502:002 (S-P-11502)** in the International EPD® System (www.environdec.com).

con número de registro **EPD-IES-0011502:002 (S-P-11502)** en el Sistema Internacional EPD® (www.environdec.com).

it's in conformity with:
es conforme con:

- **ISO 14025:2010 Environmental labels and declarations. Type III environmental declarations.**
- **General Programme Instructions for the International EPD® System v.4.0.**
- **PCR 2023:01 Fabricated metal products, except construction products v 1.0.**
- **UN CPC 416 Other non-ferrous metals and articles thereof (including waste and scrap of some metals); cermets and articles thereof.**

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Valid until / Válido hasta:	29/01/2029
Serial N° / N° Serie:	EPD0960101-E



Carlos Nazabal Alsua
Manager

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