STACBOND

Environmental Product Declaration

According to ISO 14025:2006 and EN 15804:2012+A2:2020/AC:2021 norms for:

ALUMINUM COILS

EPD of multiple products, based on representative product

Version 2.0.

From **ECO BIERZO COMPOSITE S.L. (STACBOND)**

Program:	The International EPD® System, www.envirodec.com
Program Operator:	EPD International AB
EPD registry number:	S-P-08421
Publishing date:	2023-03-03
Update date:	2025-06-18
Valid until:	2028-03-01

The EPD must give updated information and might be updated if conditions change. The indicated validity is subject

General Information

Program information

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

The CEN EN 15804 standard serve as the main Product Category Rules (PCR)

Product Category Rules (PCR): PCR 2019:14 Construction Products (EN 15804:A2 2020/AC:2021) Version 1.3.4

Life cycle assessment author:

IK ingeniería

Av. Cervantes 41, Edif. 10, panta 5, dpto.

48970 Basauri, Bizkaia (Spain)

Independent entity of data and declaration assessment, according to ISO 14025:2006:

☒ External ☐ Internal

Covers

☐ EPD process verification ☒ EPD verification

External verifier:

CERTINALIA

info@certinalia.com

Accredited by: ENAC no. 125/C-PR283.

The process of monitoring data during the validity of the EPD involves the external verifier:

☒ Yes ☐ No

The EPD owner has the exclusive for the EPD, ownership, responsibility and obligations.

The EPD in the same product category, but registered under different EPD programs, or that do not comply with EN 15804 might not be comparable. For two EPD to be comparable, they must be based on the same PCR (including the same version number) or be based in two EPD, or totally aligned EPD versions, must cover products with identical functionality, technical performances and uses (for example: identical declared units or functions); have equivalent system limits and data descriptions; apply equivalent requirements of data quality, data recollection methods, and assignation methods; apply identical cut rules and impact assessment methods (including the same version of characterization values); have equivalent content declarations; and that are in force in the moment of comparison. For more information about compatibility, see EN 15804 and ISO 14025.

Company information

EPD owner: ECO BIERZO COMPOSITE S.L.

Company Description: ECO BIERZO COMPOSITE S.L. is a company that specializes on production of aluminum cladding products.

In each of its two divisions, ECO BIERZO COMPOSITE S.L. aims for a millimetric precision on design, hoping to fulfill the demands of the current market on their requisites of quality and innovation. Due to this it does not only have the best equipment that works perfectly on each production line, but it also has a specialized technical team that has helped ECO BIERZO COMPOSITE S.L. to become one of the market leaders. These divisions are:

- **STACBOND: Manufacturing of aluminum composite panels**
- **STACBOND COIL COATING: Processing and continuous coil coating**

STACBOND® is the market leader on composite panels in Spain. Since 2008 it has been developing products meant for ventilated façades. ECO BIERZO COMPOSITE S.L. has the following certifications and standards:

- **ISO 9001**
- **ISO 14001**
- **Zero Waste**

Figure 1. ISO 9001, ISO 14001 and Zero Waste certificates

Name(s) and location(s) of plant(s): C/ Isaac Prado Bodelón S/N, Polígono Industrial de La Rozada, Parandones 24516, Toral de los Vados, León, Spain

Contact: For more information about these or other products, please contact us on the email: epd@stacbond.es

Product information

Product name: Aluminum coils

Product description: Aluminum coils are composed of aluminum sheets lacquered with the highest quality paint, offering the best resistance to ageing. Coating finishes can be as follows:

- **PVDF**
- **PE**
- **HDPE**
- **PU**
- **FEVE**
- **PRIMER**

Coil manufacturing is performed by a process controlled by rigorous testing and quality controls. Aluminum coils have many uses: Composite panels, other construction materials, automotive industry, etc....

Figure 2. Aluminum coils

Technical specifications of coils are as follows:

Width (min / max.)	mm	1000/2000
Thickness (min / max.)	mm	0.45/2
Alloy	mm	H12/H14/H16/H18/H22/H28

UN CPC code: Following the product classification system of UN-CPC, the corresponding code to the product manufactured by ECO BIERZO COMPOSITE S.L. it is CPC 4153 – "Semi-finished products of aluminum or aluminum alloys".

LCA information

Declared unit: The base declared unit is the one all information is collected of. For this study, the declared unit is "1kg of aluminum coil" for the following finishes:

- **PVDF**
- **PE**
- **HDPE**
- **PU**
- **FEVE**
- **PRIMER**

Due to the fact that coils included on this EPD serve for the same function and present a similar composition, it has been determined that the results of the panel with the higher production volume, will be used as representative values for the rest of the declared panels.

Reference service life: Not relevant for this EPD.

Geographic scope: The geographic scope of this EPD is global.

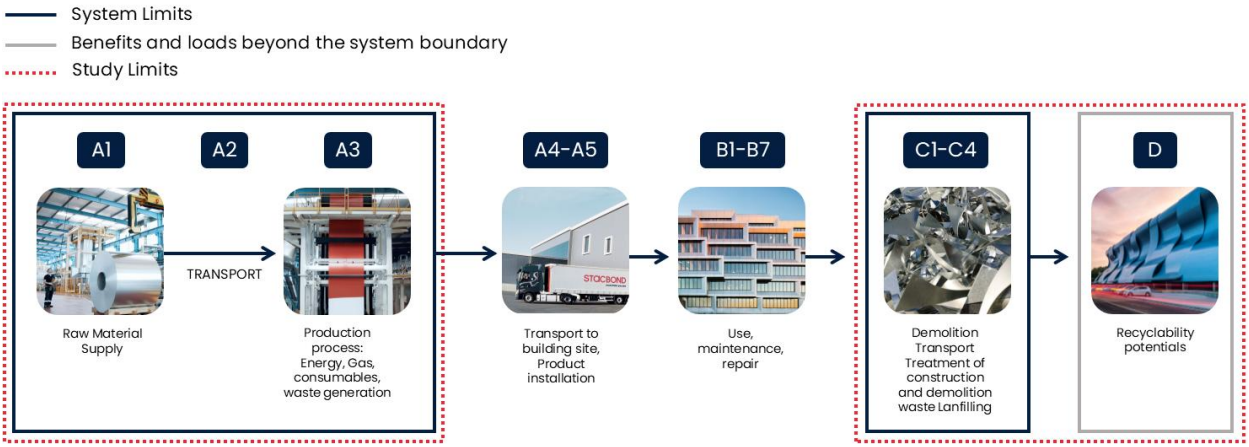
Temporal representativeness: Data collection from the factory (primary data) and electrical mix are from January 1st, 2023, to December 31st, 2023. For this study, no data has been used with an age over 10 years.

Database(s) and LCA software used: All data used to model the process and obtain Life Cycle Assessment are specific data and are obtained from measures done from the period between January 1st, 2023, to December 31st, 2023. These are representative of the different processes implemented during the manufacturing process. Data is measured directly on the company installations. Also, the most

complete and higher quality database of life cycle inventory of Europe has been used, Ecoinvent 3.10 due to the fact that this database contains the most comprehensive and up-to-date information, and its scope coincides with the project scope, both geographical, technological and timeframe. LCA was modelled with Simapro 9.6.0.1.

System limits description: Following the UNE-EN 15804:2012+A2:2020/AC:2021 (September 2021) and PCR 2019:14 CONSTRUCTION PRODUCTS (version 1.3.4) standards, system limits are from cradle to gate, with C1-C4 modules and module D (A1-A3 + C + D). Life cycle phases A4-A5, B1-B7 have been excluded from the LCA study.

System diagram:



Manufacturing process:

Aluminum sheets are supplied in coils. Are treated to remove the rust layer on the surface and lacquered with the requested finish. Once coated it is rewound and palletized for shipment.

Data quality

The environmental impact of coils has been calculated. It is based on 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

assessment, UNE-EN 15804:2012+A2:2020/AC:2021 (September 2021) and the Product Category Rules PCR - "2019:14 Construction products " (version 1.3.4).

Data has been collected from January 1st, 2023, to December 31st, 2023, and are representative of that year. Raw materials supply data, shipment to the factory and production (A1-A3) are based on specific consumption data for the Parandones factory. Generical background data sets were used for the downstream processes. The SimaPro v9.6.0.1 software was used to prepare the life cycle assessment together with the Ecoinvent 3.10 database. Characterization factors were taken from UNE-EN 15804:2012+A2:2020/AC:2021. Geographic coverage is global. Technical coverage is typical or average. The characterization factor corresponding to the ones established by the EN 15804 Reference Package EF 3.1.

Assumptions

Modularity principles have been followed and who pollutes pays. The following assumptions have been taken for this EPD:

- ✓ **The capital goods manufacturing process is not included, the replacement parts and/or maintenance with a life of more than three years.**
- ✓ **The environmental impact of general administration, offices and headquarter operations is not included.**
- ✓ **Impact caused by people (common activities, transportation to work…) are not considered.**
- ✓ **It does not include the natural gas consumption for sanitary hot water in showers and heating for people's comfort.**
- ✓ **The processes associated with combustible production are intrinsically included on the ECOINVENT database indicators, used to develop the LCA.**
- ✓ **The environmental impact of external transportation has been calculated using trucks from the ECOINVENT 3.10 database, with EURO 5. These trucks have been selected to represent the most realistic scenario possible.**

Cut rules

ISO 14025 and the PCR -"2019:14 Construction products" standards indicate that the life cycle assessment data should include at least a 95% of the total of inputs (materials and energy) for each phase. This cut rule does not apply to dangerous materials and substances. This cut criteria have not been considered for this study.

Assignation.

Where necessary, an assignment based on mass, for waste generation and energies consumption has been used.

Greenhouse effect gases from electricity used in the production phase

The specific low voltage electrical mix has been used (direct emissions and network losses), considered for the production process.

Electrical mix	Quantity	Units
Specific electrical mix	5,00E-01	Kg CO2-eqv/kWh

LCA scenarios and additional technical information

Disassemble/demolition (module C1):

On this module, the energy for disassembling has been taken from the one needed to do it with a radial saw.

Transportation (module C2):

With a collection rate of 100%, transport is done by truck (EURO 5) for 50 km.

Waste processing (modules C3 and C4):

It is considered a recycling rate of 95%, according to the recycling rate (R2) for aluminum sheets in construction, established on the Annex C of the Environmental Footprint Method. The remaining 5% is considered sent to landfill. These percentages are representative of the areas where the product is sold.

Recycling potential (module D):

Coils are recycled by melting. The recycling loads and the benefits of replacement of virgin materials have been considered.

LCA end of life scenarios

Processes	Per declared unit	
Recollection process expressed by type	1.00E+00	Kg collected separately
	0.00E+00	Kg collected mixed with construction waste
Recovery system specified by type	0.00E+00	Kg for reuse
	9.50E-01	Kg for recycling
	0.00E+00	Kg for energetic recovery
Disposal per type	5.00E-02	Kg for final disposal
Transport scenario assumptions	16-32 metric tons truck, EURO5 Consumption: 0.03kg/km Distance:50 km	

Declared modules, geographical scope, specific data percentage (according to the GWP-GHG indication) and data variation:

	Product phase			Construction process phase		Use phase							End-of-life phase				Resources recovery phase
	Supply of raw materials	Transport	Manufacturing	Transport	Installation and construction	Use	Maintenance	Repair	Replacement	Refurbishment	Use of energy in operation	Use of water in operation	Disassemble and demolition	Transport	Waste processing	Disposal	Recovery-reuse recycling potential
Module	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Declared modules	X	X	X	ND	ND	ND	ND	ND	ND	ND	ND	ND	X	X	X	X	X
Geographic scope	EU	EU	EU	ND	ND	ND	ND	ND	ND	ND	ND	ND	GLO	GLO	GLO	GLO	GLO
Specific data	>90%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation-products	-18.85%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation-locations	0%			-	-	-	-	-	-	-	-	-	-	-	-	-	-

ND: Non declared **EU: European Union** **GLO: Global**

Impact category	Unit	Variation
Climate change - Fossil	kg CO2 eq	-18.75%
Climate change - Biogenic	kg CO2 eq	-13.90%
Climate change – Land use and LU change	kg CO2 eq	-25.20%
Climate change	kg CO2 eq	-18.85%
Ozone depletion	kg CFC11 eq	-21.85%
Acidification	mol H+ eq	-20.25%
Eutrophication, freswater	kg P eq	-22.21%
Eutrophication, marine	kg N eq	-17.68%
Eutrophication, terrestrial	mol N eq	-16.77%
Photochemical ozone formation	kg NMVOC eq	-17.93%
Resource use, minerals & metals	kg Sb eq	-61.40%

Resource use, fossils	MJ	-18.93%
Water use	m3 deprived	-18.54%
GHG-GWP	kg CO2 eq	-18.85%

Content information

Product components	Per 1 m^2		
	Weight, kg	Post-consumer material, % of weight	Renewable material, % of weight
Aluminum	9.57E-01	14.80%	0.00%
Lacquer	4.32E-02	0.00%	0.00%
TOTAL	1.00E+00	0.00%	0.00%

Packaging materials	Weight, kg	Weight-% (in relation to the product)
Cardboard	3.83E-03	0.38%
Film	1.51E-04	0.02%
Wood	4.08E-03	0.41%
TOTAL	8.06E-03	0.81%

Packaging: Product is shipped to the client by pallet.

There are no substances included on the List of Candidate Substances of Very High Concern under the REACH norm presents on the assessed coils, manufactured by STACBOND®, either above the limit for the registry with the European Agency of Chemicals, or over 0.1% (weight/weight).

Environmental information

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

Potential environmental impact - mandatory markers according to EN 15804:

Results per declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
GWP-fossil	kg CO_2 eq.	7.97 E+00	0.00E+00	9.42E-03	2.34E-02	1.66E-03	-8.60E+00
GWP-biogenic	kg CO_2 eq.	4.28E-02	0.00E+00	3.00E-06	6.82E-03	5.33E-06	-2.83E-03
GWP-luluc	kg CO_2 eq.	1.48E-01	0.00E+00	4.57E-06	2,05E-05	4,84E-07	-1.54E-01
GWP-total	kg CO_2 eq.	8.16E+00	0.00E+00	9.43E-03	3,03E-02	1,67E-03	-8.78E+00
ODP	kg CFC 11 eq.	2.28E-07	0.00E+00	2.05E-10	3.59E-10	4.40E-11	-1.94E-07
AP	mol H^+ eq.	4.59E-02	0.00E+00	3.07E-05	1.28E-04	1.08E-05	-6.29E-02
EP-fresh water	kg P eq.	3.80E-04	0.00E+00	7.54E-08	7,52E-07	1,78E-08	-3.62E-10
EP-marine	kg N eq.	5.69E-03	0.00E+00	1.04E-05	4.22E-05	4.40E-06	-7.74E-03
EP-terrestrial	mol N eq.	6.25E-02	0.00E+00	1.12E-04	3.98E-04	4.86E-05	-8.60E-02
POCP	kg NMVOC eq.	2.70E-02	0.00E+00	4.59E-05	1.26E-04	1.72E-05	-3.24E-02
ADP-minerals and metals*	kg Sb eq.	2.70E-05	0.00E+00	3.02E-08	3.79E-07	7.36E-09	-1.10E-05
ADP-fossil*	MJ	1.20E+02	0.00E+00	1.34E-01	2.73E-01	3.48E-02	-1.08E+02

WDP	m^3 eq	1.09E+00	0.00E+00	5.44E-04	2.86E-03	1.77E-04	-2.11E+00

Acronyms	GWP-fossil = Global Warming Potential fossil combustibles; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential use of land and change of use of land; ODP = Stratospheric Ozone layer Depletion Potential; AP = Acidification Potential, accumulated excess; EP-fresh water = Eutrophication Potential, fraction of nutrients that advance into the fresh water; EP-marine = Eutrophication Potential, fraction of nutrients that advance into salt water; EP-terrestrial = Eutrophication Potential, accumulated excess; POCP = Photochemical Ozone Creation Potential; ADP-minerals y metals = Abiotic Depletion Potential for non-fossil resources; ADP-fossil = Abiotic Depletion Potential for fossil resources; WDP = Water Deprivation Potential (as user) water consumption weighted by deprivation.

*** Warning:** Results from this impact indicator must be used carefully, due to the uncertainties of these results are high or there is limited experience with the indicator.

Potential environmental impact - mandatory and voluntary additional indicators

Results per declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
GWP-GHG[1]	kg CO_2 eq.	8.16E+00	0.00E+00	9,43E-03	3.03E-02	1.67E-03	-8.78E+00

Use of resources

Results per declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
PERE	MJ	3.83E+01	0.00E+00	2.07E-03	2.75E-02	6.37E-03	-3.83E+01
PERM	MJ	1.39E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ	3.85E+01	0.00E+00	2.07E-03	2.75E-02	6.37E-03	-3.83E+01
PENRE	MJ	1.16E+02	0.00E+00	1.34E-01	2.73E-01	3.48E-02	1.08E+02
PENRM	MJ.	6.46E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

[1] *The indicator includes all greenhouse effect gases included on GWP-total but excludes the consumption of carbon dioxide and the emissions, and the biogenic carbon stored in the product. So, this indicator is equal to the GWP indicator originally defined on norm EN 15804:2012+A1:2013.*

PENRT	MJ	1.16E+02	0.00E+00	1.34E-01	2.73E-01	3.48E-02	-1.08E+02
SM	kg	1.48E-01	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	m3	2.74E-01	0.00E+00	1.90E-05	1.25E-04	4.91E-05	-2.16E-01

Acronyms	PERE = Use of renewable energy excluding renewable primary 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; PENRM = Non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy resources; SM = Input of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water

Waste production and output flows

Waste production

Results per declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
Dangerous waste disposed	kg	5.70E-03	0.00E+00	8.50E-07	1.45E-06	1.49E-07	-2.66E-04
Non-dangerous waste disposed	kg	2.03E+00	0.00E+00	6.53E-03	1.96E-02	1.16E-01	-2.39E+00
Radioactive waste disposed	kg	5.06E-04	0.00E+00	4.34E-08	6.32E-07	6.74E-08	-2.74E-04

Output flows

Results per declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
Components for reuse	kg	0.00E+00	0.00+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Material for recycling	kg	1.78E-02	0.00E+00	0.00E+00	9.50E-01	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

Biogenic carbon content information

Results per declared unit		
BIOGENIC CARBON CONTENT	Unit	QUANTITY
Biogenic carbon content on the product	kg C	0.00E+00
Biogenic carbon content on packaging	kg C	0.00E+00

The product does not contain biogenic carbon and the mass of materials that contain biogenic carbon on the packaging is less than 5% of the product mass, so the declaration of biogenic carbon can be omitted.

Additional information

For more information about these or other services, please visit our website: https://www.stacbond.com/descargas or contact us by email on epd@stacbond.es

Information related to the Sector EPD

This is an individual EPD®.

Differences from earlier versions

On this version V 2.0 of the EPD, data corresponding to the new production process has been updated.

A new kind of finish for coils has been added: PRIMER.

The following finish has not been included in this update: HDPU.

References

- General Instructions of the Global EPD® Programme. 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 2019:14 Construction products (EN 15804: A2) version 1.3.4
- UNE-EN 15804:2012+A2:2020/AC:2021 Sustainability of construction works - Environmental Product Declarations - Core rules for the product category of construction products.

VERIFICATION STATEMENT CERTIFICATE

CERTIFICADO DE DECLARACIÓN DE VERIFICACIÓN

Certificate No. / Certificado nº: EPD12602

CERTINALIA, S.L.U., confirms that independent third-party verification has been conducted of the Environmental Product Declaration (EPD) on behalf of:
CERTINALIA, S.L.U., confirma que se ha realizado verificación de tercera parte independiente de la Declaración Ambiental de Producto (DAP) en nombre de:

ECO BIERZO COMPOSITE, S.L.
Calle Isaac Prado Bodelón, s/n
Polígono Industrial La Rozada
24516 Parandones, Toral de los Vados (León) - SPAIN

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

ALUMINIUM COILS, LACQUERS: PVDF, HDPE, PE, PU, FEVE AND PRIMER
BOBINAS DE ALUMINIO, ACABADOS: PVDF, HDPE, PE, PU, FEVE Y PRIMER

with registration number **EPD-IES-0008421** in the International EPD® System *(www.environdec.com).*
*con número de registro **EPD-IES-0008421** en el Sistema International 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 2019:14 Construction products (EN 15804+A2) v. 1.3.4.**
- **UN CPC 4153 Semi-finished products of aluminium or aluminium alloys**

Issued date / *Fecha de emisión:*	18/06/2025
Update date / *Fecha de actualización:*	18/06/2025
Valid until / *Válido hasta:*	01/03/2028
Serial Nº / *Nº Serie:*	EPD1260200-E

Carlos Nazabal Alsua
Manager

This certificate is not valid without its related EPD.
Este certificado no es válido sin su correspondiente EPD.

This certificate is subject to modifications, temporary suspensions and withdrawals by CERTINALIA.
El presente certificado está sujeto a modificaciones, suspensiones temporales y retiradas por CERTINALIA.

The validity of this certificate can be checked through consultation in www.certinalia.com.
El estado de vigencia del certificado puede confirmarse mediante consulta en www.certinalia.com.

CERTIFICACIÓN ISO 17065 Nº125 / C-PR283