

# Environmental Product Declaration

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

Aleta chair & lounge chair with  
four wooden legs

*from* Viccarbe Habitat S.L.



**Programme:**

The International EPD® System, [www.environdec.com](http://www.environdec.com)

**Programme operator:**

EPD International AB

**EPD registration number:** S-P-17989:001

**Publication date:** 2025-05-30

**Valid until:** 2030-05-30

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*EPD of multiple products, based on a representative product. The list of products covered by this EPD is included in the product information section.*

## 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>	www.environdec.com
<b>E-mail</b>	info@environdec.com

### Accountabilities for PCR, LCA and independent, third-party verification

#### 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 1.3.4 and c-PCR-021 Furniture (c-PCR to PCR 2019:14) (adopted from NPCR 026:2024 Part B for Furniture of EPD Norway).

PCR review was conducted by: The Technical Committee of the International EPD System. See [www.environdec.com](http://www.environdec.com) for a list of members. Review chair: Claudia A. Peña, University of Concepción, Chile. The review panel may be contacted via the Secretariat [www.environdec.com/contact](http://www.environdec.com/contact).

C-PCR review was conducted by: The Technical Committee of EPD International acting as PCR Review Panel for the adoption process. Review chair was Diogo Aparecido Lopes Silva, Universidade Federal de São Carlos.

#### Life Cycle Assessment (LCA)

LCA accountability: Jill Whelan, Viccarbe Habitat, S.L.

#### Third-party verification

Independent third-party verification of the declaration and data, according to ISO 14025:2006 via:

EPD verification by EPD Process Certification\*

Internal auditor: María Mellado, Viccarbe Habitat, S.L.

Third-party verification: CERTINALIA, S.L.U. is an approved certification body accountable for third-party verification.

Third-party verifier is accredited by: ENAC, accreditation N° 125 / C-PR283.

\*EPD Process Certification involves an accredited certification body certifying and periodically auditing the EPD process and conducting external and independent verification of EPDs that are regularly published. More information can be found in the General Programme Instructions on [www.environdec.com](http://www.environdec.com). International EPD System.

Procedure for follow-up of data during EPD validity involves third party verifier:

Yes  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, or not compliant with EN 15804:2012+A2:2019/AC:2021, 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 characterization factors); have equivalent content declarations; and be valid at the time of comparison. For further information about comparability, see EN 15804 and ISO 14025.

## Company information

**Owner of the EPD** Viccarbe Habitat, S.L.  
 Camí del Racó, 23. P.I. Norte.  
 46469 Beniparrell, Valencia  
 - Spain

**Contact** Silvia Rodrigo  
 (srodrigo@viccarbe.com)

**Product-related or management system-related certifications:**

- ISO 9001:2015  
 Quality management systems
- ISO 14001:2015  
 Environmental management systems
- EPD Process

**Name and location of production site(s):**

Camí del Racó, 23. P.I. Norte.  
 46469 Beniparrell, Valencia - Spain

**More information:**

[www.viccarbe.com](http://www.viccarbe.com)



**Description of the organization**

Founded in 2000 in Valencia, Viccarbe has established itself as an international reference in the design and manufacture of collaborative furniture for unique spaces, including corporate, hospitality, educational, and residential environments. With a vision focused on creating environments that encourage interaction, creativity, and well-being, Viccarbe has captured the essence of Mediterranean style, blending elegance, functionality, and warmth into each of its collections.

The brand collaborates with some of the world’s most renowned designers, such as Patricia Urquiola, John Pawson, Piero Lissoni, Jaime Hayon, and Vincent Van Duysen, among others, who bring timeless and versatile collections to life that reflect excellence in design and attention to detail.

In addition, Viccarbe has been part of the Steelcase Group since 2021, further strengthening its leadership in creating collaborative spaces on a global scale. With a strong commitment to quality, innovation, and durability, the company holds international certifications such as ISO 9001 and ISO 14001, as well as UNE and ANSI/BIFMA strength, durability and safety standards for furniture, ensuring the highest standards of safety and performance.

## Product information

**Product name:**

Aleta chair with four wooden legs  
(representative product)

**Product identification:**

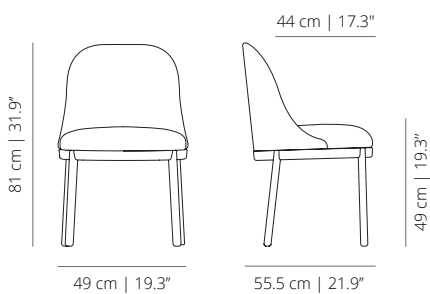
ALSIMA (representative product)

**Product description:**

All seats included in the EPD are comprised of a moulded plywood seat and backrest, covered with expanded polyurethane foam, wadding and fabric. The wooden bases are made of solid oak and can be finished in one of five options. The products can be used in both public and residential indoor spaces.

**UN CPC code:**

3811: Seats.



**Geographical scope:**

The products are sold worldwide. Materials and processes within modules A1 and A2 have a global origin, whereas modules A3, A5 and all modules in B originate from Europe. The distribution of products to the Americas region has been included in A4 in addition to EMEA (Europe, Middle East & Africa). The end-of-life of the products has been modelled to represent Europe.

**List of products covered by this EPD:**

20 products are included in the EPD, all of which are composed of the same materials and are manufactured in the same manner and include chairs and lounge chairs. They differ in the quantity of material used in their manufacturing and the finish of the solid oak bases. Both chairs and lounge chairs are available with or without armrests. The representative product was chosen based on sales in 2024. The products include:

TECHNICAL SPECIFICATIONS		
Representative product		Other product ranges
Width	49 cm	49 - 53 cm
Height	81 cm	81 - 82,5 cm
Base depth	55,5 cm	55,5 - 72 cm
Seat height	49 cm	42,5 - 49 cm
Seat depth	44 cm	44 - 54 cm
Weight	7,99 kg	7,97 - 12,57 kg

Product information

PRODUCT LIST			
	Type	Product code	Finish
1	Chair	ALSIMA (representative product)	Ash
2	Chair	ALSIMA	Cognac
3	Chair	ALSIMA	Matt oak
4	Chair	ALSIMA	Bleached oak
5	Chair	ALSIMA	Walnut
6	Chair with armrest	ALSIMABR	Ash
7	Chair with armrest	ALSIMABR	Cognac
8	Chair with armrest	ALSIMABR	Matt oak
9	Chair with armrest	ALSIMABR	Bleached oak
10	Chair with armrest	ALSIMABR	Walnut
11	Lounge chair	ALBUMA	Ash
12	Lounge chair	ALBUMA	Cognac
13	Lounge chair	ALBUMA	Matt oak
14	Lounge chair	ALBUMA	Bleached oak
15	Lounge chair	ALBUMA	Walnut
16	Lounge chair with armrest	ALBUMABR	Ash
17	Lounge chair with armrest	ALBUMABR	Cognac
18	Lounge chair with armrest	ALBUMABR	Matt oak
19	Lounge chair with armrest	ALBUMABR	Bleached oak
20	Lounge chair with armrest	ALBUMABR	Walnut

CHAIRS



ALSIMA



ALSIMABR

LOUNGE CHAIRS



ALSIMA



ALSIMABR

## LCA information

**Functional unit:** the production of one Aleta seat with four wooden legs properly maintained during a reference service life of 15 years.

**Mass (weight):**

CONVERSION FACTOR TO WEIGHT				
	Product code	Type	Finish	Mass (kg)
1	ALSIMA (representative product)	Chair	Ash	7,99
2	ALSIMA	Chair	Cognac	7,99
3	ALSIMA	Chair	Matt oak	7,97
4	ALSIMA	Chair	Bleached oak	7,99
5	ALSIMA	Chair	Walnut	7,99
6	ALSIMABR	Chair with armrest	Ash	9,38
7	ALSIMABR	Chair with armrest	Cognac	9,38
8	ALSIMABR	Chair with armrest	Matt oak	9,36
9	ALSIMABR	Chair with armrest	Bleached oak	9,38
10	ALSIMABR	Chair with armrest	Walnut	9,38
11	ALBUMA	Lounge chair	Ash	11,99
12	ALBUMA	Lounge chair	Cognac	11,99
13	ALBUMA	Lounge chair	Matt oak	11,96
14	ALBUMA	Lounge chair	Bleached oak	11,99
15	ALBUMA	Lounge chair	Walnut	11,99
16	ALBUMABR	Lounge chair with armrest	Ash	12,57
17	ALBUMABR	Lounge chair with armrest	Cognac	12,57
18	ALBUMABR	Lounge chair with armrest	Matt oak	12,54
19	ALBUMABR	Lounge chair with armrest	Bleached oak	12,57
20	ALBUMABR	Lounge chair with armrest	Walnut	12,57

**Reference service life:** 15 years.

**Technical lifespan:** 15 years. Aleta four wooden legs seats comply with UNE-EN 16139:2013 vc2015 standards for strength, durability and safety.

**Time representativeness:** the primary data has been collected during the year 2025. The process data and data corresponding to electricity are from 2024.

**Database(s) and LCA software used:** SimaPro 10.1.0.6 with Ecoinvent Database 3.10 (November 2023) - Allocation, cut-off by classification.

**Description of system boundaries:** Cradle to grave and module D (A + B + C + D).

**Electricity mix:** the energy source behind the electricity use in manufacturing process in A3 is from our electricity suppliers in 2024 and resulted in 0,017 kg CO<sub>2</sub> eq / kWh. Electricity modelling is based on guarantees of origin and was considered low voltage electricity generated by 100% renewable energy mix provided by our supplier in 2024.

## LCA information

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**Cut-off criteria:** life cycle inventory data for a minimum of 99% of total material and energy input flows have been included in the life cycle analysis. All modules have been included, however, modules B1, B3, B4, B5, B6, B7 and C1 are not applicable for this product (see justification).

**Excluded processes and assumptions:**

Scenarios are utilized for the use and end-of-life stages, taking into account geographical factors (such as the electricity mix) and specific applications (including waste treatment practices).

The following processes have been excluded:

- Manufacture of equipment used in production, buildings or any other capital goods
- The transportation of personnel to, from and within the plant
- Research and development activities

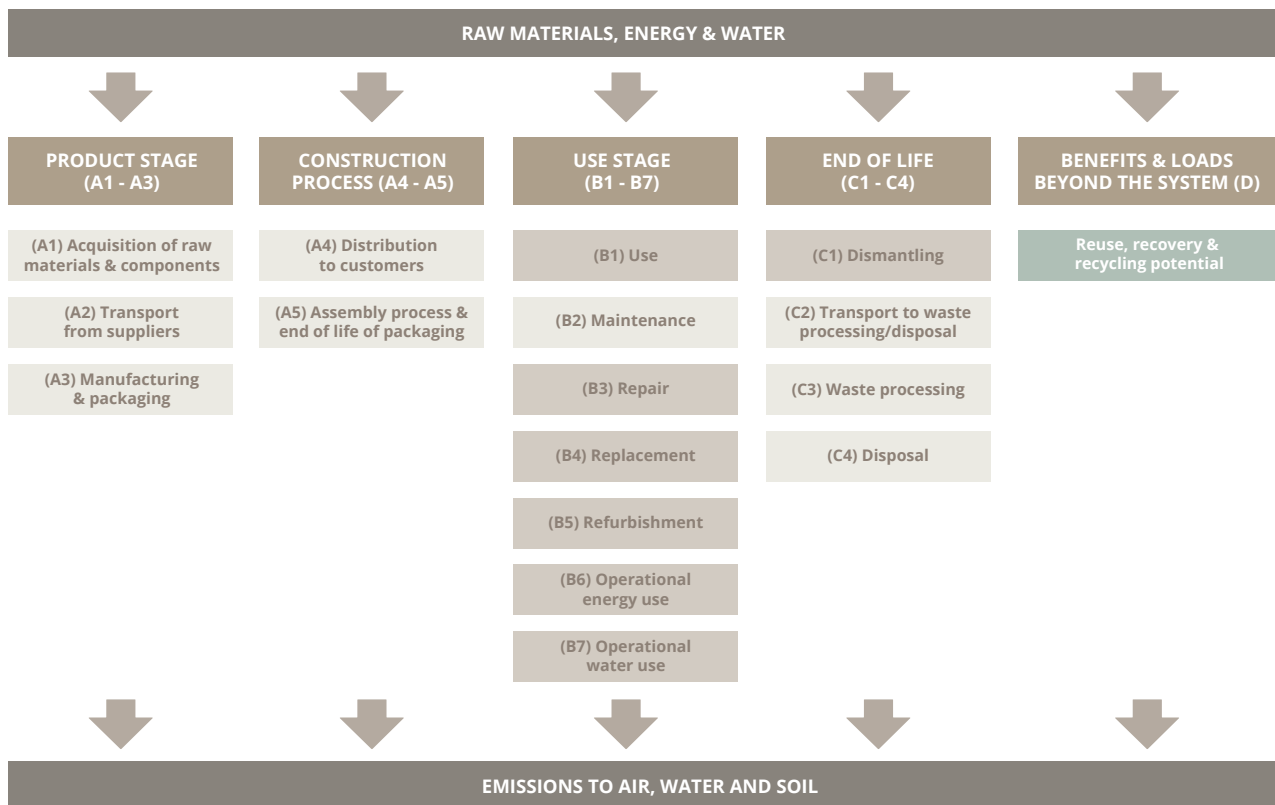
Thread, staples, tape and labels were excluded from the analysis as their weights and corresponding percentages are inferior to 1% of the total product weight.

**Allocation criteria:**

- Manufacturing data has been allocated based on annual production (units).
- End-of-life allocation procedures: the polluter pays criteria has been applied for materials and products end-of-life. In this approach the environmental burdens and benefits of recycled / reused materials are given to the product system consuming them, rather than the system providing them. This is known as the cut-off, recycled content approach.



# LCA information



**LEGEND**

- With impact
- Without impact

## More information

### Modules A1 – A3:

The data used to complete the LCA were acquired with the help of suppliers, technical product manuals developed internally and product experts in Viccarbe. In cases where primary data were unavailable or unattainable, calculations, estimations and/or information from internationally recognised databases were used in their place. The fabric analysed was based on a mix of the highest selling fabrics in 2024.

The product and packaging materials are manufactured using raw materials from various suppliers worldwide. The textiles, wadding and black foam are cut internally in the Viccarbe headquarters. The plywood structure is machined, assembled and is upholstered. The solid oak wooden base has the requested finish applied and is united to the upholstered seat structure. The product is packaged and transported to Viccarbe’s logistic centre for distribution.

Module A2 represents the transport of raw materials and components from the suppliers and/or manufacturers until the logistics centre using the transport types as notified by the suppliers. When this information was not available, the most conservative option was utilised.

Electricity consumption in A3 was based on actual data from 2024 invoices. Module A3 considers waste, consumables and chemical products in the plant involved in manufacturing. Excesses attributed to manufacturing the product and packaging in our plant are included in this module. The excesses are incurred from cutting textiles; 74,01% are attributed to fabric, 23,14% to wadding and 2,85% to black foam.

LCA information

**Module A4:**

Module A4 includes the distribution of the product (and packaging) to clients in 2024 by road and/or by container ship. Two scenarios were considered; to the Americas region (8225,00 km) and to the EMEA region (2251,27 km) which were both weighted according to sales in both regions in 2024.

Other scenarios were excluded as the destination and transport could not be accurately determined.

DISTRIBUTION TO CLIENTS			
Region	EMEA	AMERICA	
Type of transport	Lorry, EURO 5	Lorry, EURO 5	Container ship
Fuel consumption	Diesel, 0,33 l/km		Heavy fuel oil, 113,27 l/km
Distance (km)	2251,27	1362,00	6863,00
Capacity utilisation (including empty return)	50%		
Mass, product + packaging (kg)	10,43		
Volume (m³)	0,28		
Usable capacity factor	Not applicable		

**Module A5:**

Module A5 includes the assembly of the seat and treatment of packaging waste material. The seat is delivered already assembled and no installation is required by the client.

PRODUCT INSTALLATION	
Auxiliary materials	Not applicable
Water use	
Other resource use	
Type of energy & use	
Waste materials generated	Cardboard, 2,36 kg   Polyethylene, 0,07 kg
Waste destinations	Recycled, 2,39 kg   Incinerated, 0,04 kg   Landfill, 0,004 kg
Direct emissions to air, water, soil	0 kg

## LCA information

### Modules B1 – B7:

Module B2 considers the following:

USE STAGE	
Maintenance process	Vacuuming with 680W domestic appliance
Maintenance cycle	1 min, 24 times a year for 15 years (RSL)
Auxiliary materials required	Not applicable
Waste generated	
Water consumed	
Energy input, type of energy, quantity	Vacuum cleaning, Electricity, 0,272 kWh / year

The remaining modules are not applicable to the product with normal use as no impacts are incurred and no water or energy are required for its use.

### Modules C1 – C4:

The disassembly of the seat is performed manually, therefore, does not consume energy in module C1.

Module C2 includes the transport of the seat to its final destination for waste treatment.

Module C3 involves the materials incorporated into the seat that are recycled or processed for energy recovery whereas module C4 considers the materials that are destined for landfill. In both cases, data from EUROSTAT (on waste treatment and management operations in 2022) was incorporated.

END OF LIFE STAGE	
Collection process	7,99 kg collected separately
	0 kg collected with mixed waste construction
Recovery system, specified by type	0 kg reutilised
	3,46 kg recycled
	2,89 kg for energy recovery
Disposal, specified by type	1,64 kg for landfill
Distance to recycling facility	50 km
Distance to energy recovery facility	
Distance to landfill facility	

### Module D:

The benefits and loads from waste treatments are included in module D. Energy recovery and recycled materials from both packaging and the product have been considered.

## LCA information

### Data quality assessment

The Life Cycle Assessment (LCA) study is based on specific data and represents the production of one Aleta seat with four wooden legs. Since components are sourced from external suppliers, the manufacturing processes have been modelled using “Market for” materials and processes from Ecoinvent database in SimaPro, selecting the most suitable geographical conditions and applications for accurate representation.

In accordance with the criteria outlined in the “UN Environmental Global Guidance on LCA Database Development,” as specified in EN 15804+A2, the data quality for all three representative categories - geographical, technical, temporal - can be described as good.

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

	PRODUCT STAGE			CONSTRUCTION PROCESS STAGE		USE STAGE							END OF LIFE STAGE			RESOURCE RECOVERY STAGE	
	Raw material supply	Transport	Manufacturing	Distribution	Installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction / demolition / deinstallation	Transport to waste processing	Waste processing - reuse / recovery / recycling	Disposal	Reuse - Recovery Recycling - potential
Module	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Modules declared	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Geography	GLO	GLO	ES	EMEA / America	EU	EU	EU	EU	EU	EU	EU	EU	EU	EU	EU	EU	EU
Specific data used	26%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation - products	-0,33% / 95,89%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation - sites	0%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Acronyms</b>	ES = Spain, EU = European Union, EMEA = Europe, Middle East & Africa, GLO = Global																

The share of primary data is calculated based on GWP-GHG results. It is a simplified indicator for data quality that does not capture all relevant aspects of data quality. The indicator is not comparable across product categories.

The percentage difference in variation in modules A - C represents the variation between the representative product and the other 19 declared products due to the following:

- Seats with armrests require more material (plywood, polyurethane foam, wadding, fabric) than seats without armrests. The increase in weight and materials also increases the environmental impact.
- The lounge chairs have larger seat structures and require a larger wooden base than that of the chairs. As more material is required in the manufacturing, their impacts are superior to those of the chairs
- An extra application of dye is necessary for the ash, walnut, bleached oak and cognac finishes compared to the matt oak finish. As a result, the environmental impacts of the matt oak finish are slightly inferior.

Content information

PRODUCT COMPONENTS	MASS, kg REPRESENTATIVE PRODUCT	MASS, kg OTHER DECLARED PRODUCTS	BIOGENIC MATERIAL, MASS - % OF PRODUCT	BIOGENIC MATERIAL, kg C / FUNCTIONAL UNIT
Solid oak	2,79	2,79 - 3,70	15,89%	1,27
Plywood	2,57	2,57 - 4,08	14,61%	1,17
Adhesive	0,80	0,80 - 1,54	0,00%	0,00
Polyurethane foam	0,46	0,46 - 1,32	0,00%	0,00
Textiles	0,42	0,42 - 0,79	0,00%	0,00
Steel	0,37	0,37 - 0,38	0,00%	0,00
Polypropylene	0,22	0,22	0,00%	0,00
Varnish / paint	0,21	0,19 - 0,25	0,00%	0,00
Polyester	0,15	0,15 - 0,29	0,00%	0,00
<b>TOTAL</b>	<b>7,99</b>	<b>7,97 - 12,57</b>	<b>30,50%</b>	<b>2,43</b>

PACKAGING MATERIALS	MASS, kg REPRESENTATIVE PRODUCT	MASS, kg OTHER DECLARED PRODUCTS	MASS - % (VS THE PRODUCT)	BIOGENIC MATERIAL, kg C / FUNCTIONAL UNIT
Cardboard	2,36	3,52	29,55%	1,16
Polyethylene	0,07	0,15	0,90%	0,00
Labels, tape	0,01	0,01	0,13%	0,00
<b>TOTAL</b>	<b>2,44</b>	<b>2,44 - 3,68</b>	<b>30,57%</b>	<b>1,16</b>

The % of post-consumer recycled content in product and packaging is <5%.

The product does not contain a concentration higher than 0,1% (1000 ppm) of substances of very high concern (SVHC) on the REACH Candidate List published by the European Chemicals Agency.

## Results of the environmental performance indicators

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.

The results of the end-of-life stage (module C) should be considered when using the results of the production stage (modules A1-A3).

### Mandatory impact category indicators according to EN 15804 reference package based on EF 3.1

RESULTS PER FUNCTIONAL UNIT																	
Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	% Variation A - C
GWP-fossil	kg CO <sub>2</sub> eq.	1,93E+01	3,32E+00	2,06E-01	0	1,34E+00	0	0	0	0	0	0	2,28E-01	2,79E-01	7,40E-01	-2,15E+00	-0,28% / 87,05%
GWP-biogenic	kg CO <sub>2</sub> eq.	1,93E+01	3,32E+00	2,06E-01	0	1,34E+00	0	0	0	0	0	0	2,28E-01	2,79E-01	7,40E-01	-2,15E+00	-0,01% / 6,70%
GWP-luluc	kg CO <sub>2</sub> eq.	4,12E-01	1,16E-03	1,72E-05	0	4,07E-03	0	0	0	0	0	0	8,72E-05	6,77E-05	1,32E-05	-3,23E-03	-0,01% / 84,39%
GWP-total	kg CO <sub>2</sub> eq.	7,14E+00	3,32E+00	4,47E+00	0	1,34E+00	0	0	0	0	0	0	2,28E-01	9,20E+00	7,40E-01	-2,10E+00	-0,27% / 85,12%
ODP	kg CFC 11 eq.	7,41E-06	6,54E-08	2,64E-09	0	2,46E-08	0	0	0	0	0	0	4,49E-09	1,18E-09	9,92E-10	-9,42E-08	-0,04% / 123,04%
AP	mol H <sup>+</sup> eq.	4,57E-01	1,52E-02	9,12E-04	0	7,85E-03	0	0	0	0	0	0	6,68E-04	9,12E-04	1,05E-03	-7,13E-03	-0,06% / 92,96%
EP-freshwater	kg P eq.	6,33E-03	2,20E-04	3,35E-06	0	1,24E-03	0	0	0	0	0	0	1,82E-05	3,62E-05	7,20E-06	-4,97E-04	-0,21% / 66,61%
EP-marine	kg N eq.	1,97E-01	4,65E-03	3,99E-04	0	1,23E-03	0	0	0	0	0	0	2,10E-04	5,28E-04	4,93E-03	-2,22E-03	-0,03% / 94,13%
EP-terrestrial	mol N eq.	1,80E+00	5,09E-02	4,34E-03	0	1,10E-02	0	0	0	0	0	0	2,29E-03	4,29E-03	5,65E-03	-2,52E-02	-0,03% / 93,47%
POCP	kg NMVOC eq.	4,65E-01	1,97E-02	1,72E-03	0	3,64E-03	0	0	0	0	0	0	1,01E-03	1,08E-03	1,43E-03	-9,12E-03	-0,08% / 92,32%
ADP-minerals & metals*	kg Sb eq.	2,74E-04	9,80E-06	1,13E-07	0	1,79E-05	0	0	0	0	0	0	9,86E-07	1,53E-07	9,29E-08	-1,72E-06	-0,16% / 47,75%
ADP-fossil*	MJ	3,27E+02	4,69E+01	2,22E+00	0	3,11E+01	0	0	0	0	0	0	3,17E+00	1,02E+00	6,91E-01	-3,34E+01	-0,41% / 78,54%
WDP*	m <sup>3</sup>	1,61E+01	2,02E-01	4,34E-03	0	3,85E-01	0	0	0	0	0	0	1,35E-02	3,00E-02	-5,62E-03	-1,93E-01	-0,12% / 67,78%
<b>Acronyms</b>	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																

\* 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.

## Results of the environmental performance indicators

### Additional mandatory and voluntary impact category indicators

RESULTS PER FUNCTIONAL UNIT																	
Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	% Variation A - C
GWP-GHG[1]	kg CO <sub>2</sub> eq.	1,97E+01	3,32E+00	2,06E-01	0	1,34E+00	0	0	0	0	0	0	2,28E-01	2,79E-01	7,40E-01	-2,15E+00	-0,28% / 87,01%

[1] 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.

RESULTS PER FUNCTIONAL UNIT																	
Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	% Variation A - C
Human toxicity, cancer	CTUh	1,87E-07	2,15E-08	2,71E-10	0	3,13E-09	0	0	0	0	0	0	1,74E-09	1,01E-09	5,47E-10	-1,70E-07	-0,36% / 53,59%
Human toxicity, non-cancer	CTUh	2,94E-07	2,87E-08	5,30E-10	0	2,17E-08	0	0	0	0	0	0	1,90E-09	5,69E-09	3,20E-09	-9,11E-09	-0,17% / 69,80%
Ecotoxicity, freshwater	CTUe	3,21E+02	1,19E+01	2,90E-01	0	5,55E+00	0	0	0	0	0	0	1,04E+00	7,43E-01	2,70E+00	-4,87E+01	-0,53% / 105,29%
Land use	Pt	8,61E+02	3,46E+01	2,57E-01	0	6,91E+00	0	0	0	0	0	0	1,33E+00	2,08E-01	6,33E-01	-5,68E+02	-0,03% / 48,66%
Particulate matter	disease inc.	2,34E-06	2,75E-07	2,22E-08	0	2,80E-08	0	0	0	0	0	0	1,31E-08	6,74E-09	4,47E-09	-1,21E-07	-0,12% / 87,14%
Ionising radiation	kBq U-235 eq	1,58E+00	5,97E-02	7,07E-04	0	8,59E-01	0	0	0	0	0	0	5,95E-03	1,20E-02	6,86E-04	-1,24E-01	-0,19% / 29,38%
Eutrophication	kg PO <sub>4</sub> eq.	1,09E-01	2,50E-03	1,92E-04	0	4,46E-03	0	0	0	0	0	0	1,44E-04	5,85E-04	5,47E-03	-2,51E-03	-0,08% / 81,18%

## Results of the environmental performance indicators

### Resource use indicators

RESULTS PER FUNCTIONAL UNIT																	
Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	% Variation A - C
PERE	MJ	1,56E+02	7,58E-01	9,58E-03	0	8,37E+00	0	0	0	0	0	0	7,33E-02	1,06E-01	1,19E-02	-8,35E+01	-0,03% / 37,83%
PERM	MJ	1,29E+02	0	0	0	0	0	0	0	0	0	0	0	0	0	0	46,53%
PERT	MJ	2,85E+02	7,58E-01	9,58E-03	0	8,37E+00	0	0	0	0	0	0	7,33E-02	1,06E-01	1,19E-02	-8,35E+01	-0,02% / 41,65%
PENRE	MJ	3,19E+02	4,66E+01	2,22E+00	0	2,71E+01	0	0	0	0	0	0	3,14E+00	9,62E-01	6,86E-01	-3,38E+01	-0,42% / 79,71%
PENRM	MJ	5,00E+01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0,22% / 94,74%
PENRT	MJ	3,69E+02	4,66E+01	2,22E+00	0	2,71E+01	0	0	0	0	0	0	3,14E+00	9,62E-01	6,86E-01	-3,38E+01	-0,40% / 81,38%
SM	kg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
RSF	MJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
NRSF	MJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
FW	m <sup>3</sup>	2,57E+00	6,65E-03	1,50E-04	0	2,69E-02	0	0	0	0	0	0	5,10E-04	1,12E-03	2,12E-04	-1,15E-02	-0,02% / 91,48%
<b>Acronyms</b>	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 resources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water																

### Waste indicators

RESULTS PER FUNCTIONAL UNIT																	
Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	% Variation A - C
Hazardous waste disposed	kg	4,44E-01	3,09E-04	1,55E-05	0	6,67E-05	0	0	0	0	0	0	2,15E-05	4,88E-06	4,72E-06	-2,78E-04	-0,01% / 96,46%
Non-hazardous waste disposed	kg	3,74E+00	2,85E+00	1,32E-02	0	1,02E-01	0	0	0	0	0	0	9,73E-02	5,74E-02	1,32E+00	-1,25E-01	-0,36% / 62,38%
Radioactive waste disposed	kg	1,48E-03	1,48E-05	1,71E-07	0	2,21E-04	0	0	0	0	0	0	1,49E-06	3,07E-06	1,70E-07	-2,93E-05	-0,07% / 71,13%

## Results of the environmental performance indicators

### Output flow indicators

RESULTS PER FUNCTIONAL UNIT																	
Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	% Variation A - C
Components for re-use	kg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
Material for recycling	kg	1,22E+00	0	2,39E+00	0	0	0	0	0	0	0	0	0	3,46E+00	0	0	37,50%
Materials for energy recovery	kg	1,84E-03	0	4,00E-02	0	0	0	0	0	0	0	0	0	2,89E+00	0	0	47,07%
Exported energy, electricity	MJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-5,24E+00	0%
Exported energy, thermal	MJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1,05E+01	0%

## Additional environmental information

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The product is assembled in Viccarbe's factory in Beniparrell, Spain. Viccarbe is accredited to the environmental standard ISO 14001.

At Viccarbe we try to design products with easily interchangeable parts, making it easier to recycle the various components at the end of their life cycle. Instructions for proper maintenance to guarantee an adequate life cycle of the product are specified in the Maintenance Indoor & Outdoor manual, available on [www.viccarbe.com](http://www.viccarbe.com).

The polyurethane foam is CertiPUR and Oeko-TEX certified.

We use powder coating obtained from polyester resins without TGIC on our metallic structures. It offers hard weather resistance, maintaining its gloss and resistance to the UV rays, and complies with international specifications of QUALICOAT. No solvents are present in polyester powder coatings; therefore, they are free of volatile organic compounds (VOCs). Powder coatings neither contain heavy metals such as cadmium and lead.

We carefully analyse the packaging of our product, using the quantity of cardboard, plastic, or foam strictly necessary to avoid the product being damaged in any way during transport.

We take environmental impact into account when selecting raw materials. 98% of our suppliers are European, allowing us to minimize the environmental impact caused by transport. The remaining 2% come from the USA.

For the distribution of our products, we use groupage transport companies, ensuring that the trucks are full.

### VOC emissions

This product is in scope of Indoor Advantage Gold certification number SCS-IAQ-11049 by SCS Global Services, and therefore conforms to the ANSI/BIFMA Furniture Emissions Standard (M7.1/X7.1-2011 R2021) and ANSI/BIFMA e.3-2019 (Credits 7.6.1, 7.6.2, 7.6.3) for seating parameters.<sup>1</sup> Also, conforms to the CDPH/EHLB Standard Method (CA 01350) v1.2-2017 for seating<sup>1</sup> and school classroom<sup>2</sup> parameters.

<sup>1</sup>Modeled as Office Seating

<sup>2</sup>Modeled as Pupil Seating

The plywood used in the manufacturing processes complies with TSCA Title VI + CARB ACTM 93120.

The wooden legs are made of solid oak sourced from sustainable forestry sources in Europe. Solid wood has low formaldehyde emissions.

## Additional environmental information

### Conversion factors

For specific GWP - GHG results for each of the declared products, it is necessary to multiply the results of A1 - A3 GWP - GHG of the representative product (1,97E+01 kg CO<sub>2</sub> eq) by the A1 - A3 conversion factor value in the table below.

GWP - GHG				
	Product code	Finish	Mass (kg)	A1 - A3 Conversion factor
1	ALSIMA (representative product)	Ash	7,99	1,00
2	ALSIMA	Cognac	7,99	1,00
3	ALSIMA	Matt oak	7,97	1,00
4	ALSIMA	Bleached oak	7,99	1,00
5	ALSIMA	Walnut	7,99	1,00
6	ALSIMABR	Ash	9,38	1,23
7	ALSIMABR	Cognac	9,38	1,23
8	ALSIMABR	Matt oak	9,36	1,23
9	ALSIMABR	Bleached oak	9,38	1,23
10	ALSIMABR	Walnut	9,38	1,23
11	ALBUMA	Ash	11,99	1,89
12	ALBUMA	Cognac	11,99	1,89
13	ALBUMA	Matt oak	11,96	1,88
14	ALBUMA	Bleached oak	11,99	1,88
15	ALBUMA	Walnut	11,99	1,88
16	ALBUMABR	Ash	12,57	1,96
17	ALBUMABR	Cognac	12,57	1,96
18	ALBUMABR	Matt oak	12,54	1,95
19	ALBUMABR	Bleached oak	12,57	1,96
20	ALBUMABR	Walnut	12,57	1,96

## Differences versus previous versions

Version	Version date	Description of the differences versus the previously published version
Original version of the EPD	202X-XX-YY	--

This is the original version of the EPD.

## Abbreviations

- CEN - European Committee for Standardization
- CPC - Central product classification
- c-PCR - Complementary product category rules
- EMEA - Europe, Middle East & Africa
- ENAC - Spanish National Accreditation Body
- EPD - Environmental product declaration
- EU - European Union
- FAQ - Frequently asked questions
- GHG - Greenhouse gas
- GPI - General programme instructions
- GWP - Global warming potential
- IAQ - Indoor Air Quality
- ISO - International Organization for Standardization
- LCA - Life cycle assessment
- LCI - Life cycle inventory
- LCIA - Life cycle impact assessment
- PCR - Product category rules
- PEF - Product environmental footprint
- PPM - Parts per million
- REACH - Restriction of chemicals
- RSL - Reference service life
- SVHC - Substance of very high concern
- USA - United States of America
- VOC - Volatile organic compounds

## References

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- ECOINVENT. Ecoinvent Centre, [www.ECO-invent.org](http://www.ECO-invent.org)
- EN 15804:2012+A2:2019/AC:2021, Sustainability in construction works - Environmental product declarations - Core rules for the product category of construction products.
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- EPD International PCR 2019:14 V1.3.4 for construction products.
- EUROSTAT (2022). Recycling rates of packaging waste for monitoring compliance with policy targets, by type of packaging.
- Instituto de Estudios de la Seguridad (2010). Búsqueda y validación de parámetros de la carga de fuego en establecimientos industriales.
- ISO 14040:2006/A1:2021. Environmental management - Life cycle assessment. Principles and framework.
- ISO 14044:2006 /A1:2018 + A2:2021. Environmental management - Life cycle assessment. Requirements and guidelines.
- ISO 14025:2006. Environmental declarations and labels.
- PCR 2019:14-c-PCR-021 (adopted from NPCR 026:2024 Part B for Furniture of EPD Norway)
- Phyllis2 database for the physico-chemical composition of (treated) lignocellulosic biomass, micro- and macroalgae, various feedstocks for biogas production and biochar. Link: <https://phyllis.nl/>
- SimaPro LCA Software. <https://simapro.com/>

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