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ENVIRONMENTAL PRODUCT DECLARATION

CATIFA CARTA

EPD Programme:	The International EPD System (www.environdec.com)
Program operator:	EPD International AB
Reference Standards:	ISO 14025:2006 e EN 15804:2012+A2:2019/AC:2021
Date of emission:	2025-04-28
Validity date:	2030-04-01
Registration number:	EPD-IES-0022245

ECO PLATFORM EPD VERIFIED

EPD®
THE INTERNATIONAL EPD® SYSTEM

EPD of multiple products, based on a representative product: Catifa Carta 4 legs painted, Catifa Carta aluminium trestle, Catifa Carta painted trestle.

Note: 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.

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SUMMARY

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PROGRAMME INFORMATION

Programme	The International EPD® System
Programme Operator Address	EPD International AB Box 210 60 SE-100 31 Stockholm Sweden
Web site	www.environdec.com
E-mail	info@environdec.com
Responsibility for PCR, LCA and independent third-party verification	
Product Category Rules (PCR) CEN standard EN 15804 serve as the core Product Category Rules (PCR)	
PCR 2019:14 v1.3.4 – Construction products c-PCR-021 Furniture (c-PCR to PCR 2019:14) PCR review was conducted by: The Technical Committee of the International EPD System. See 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.	
Life cycle assessment (LCA)	
LCA accountability: 2B Srl	
Third-party verification	
Independent third-party verification of the declaration and data, according to ISO 14025:2006 via: ☑ EPD verification by EPD Process Certification* Third-party verifier: CSQA Certificazioni Srl, is an approved certification body accountable for third-party verification Third-party verifier is accredited by: ACCREDIA (00070) *For EPD Process Certification, an accredited certification body certifies and reviews the management process and verifies EPDs published on a regular basis. For details about third-party verification procedure of the EPDs, see the GPI.	
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 of 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 shall be based on the same PCR (including the same version number up to the first two digits20) 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

THE COMPANY AND THE PRODUCT

THE COMPANY

EPD owner: Arper SPA, Via Lombardia 16, 31050 Monastier di Treviso (TV) Italia.

Arper manufactures chairs, tables and furnishing accessories. Arper's approach is relationship-oriented, and translates into design aimed at aesthetics and usability; into a global, innovative and customized approach; into the enhancement of local contexts within internationalization strategies; into organizational policies always based on transparency and the maintenance of a solid and consistent brand identity.

Arper is working on quantifying the environmental impact of some of its products in order to stimulate research to improve their technical and environmental performance and to concretise its commitment to respect the environment. Arper has already obtained EPD certification for some of its products and wishes to obtain it for all the most representative models of its production.

Arper recognises the importance of environmental sustainability and is increasingly committed to it: in 2006 it adopted the ISO 14001 environmental management system, in 2007 it introduced the use of the LCA tool and subsequently obtained various product certifications. Through LCA, it was possible for Arper to obtain the EPD. Arper obtained the first EPD for Catifa 46 and Catifa 53 in 2008. In 2018, Arper obtained the EPD process.

Arper's production sites are located in Italy and the USA.

PRODUCT DESCRIPTION

Product name: Catifa Carta

Product identification according to UN CPC Scheme System: 3811 (Seats)

Catifa Carta is a chair that can be used indoors.

Catifa Carta's shell is made of PaperShell, a material derived from wood processing waste, which provides the essential strength and comfort to Catifa's iconic, curvaceous silhouette. At the end of its life cycle, PaperShell can be reduced to biochar, vegetable charcoal that acts as a soil conditioner. PaperShell is the result of advanced scientific research and Arper is the first manufacturer in the furnishing sector to use it for a finished product.

In this multi-product EPD, Catifa Carta products with a PaperShell shell and steel frame, in 4-leg painted, painted trestle and aluminum trestle versions, will be analysed and the composition and results of the representative product among the products considered in the study will be reported. Catifa Carta 4-leg painted version was considered as a representative product as it is the best-selling product.

Catifa Carta is produced in Italy and sold globally by Arper in two combinations: single packaging or x4 packaging. The packaging ratios were taken from sales data for the reference year of the study 2024: 91% of the chairs are packed with 4 pieces per box.

Included products contain no SVHC (substances of very high concern) on the Candidate List published by ECHA (European Chemicals Agency) in a concentration more than 0,1 % (w/w).

Information on the composition of the representative product with PaperShell and steel frame and its packaging can be found in Table 1.

Table 1 - Representative product composition for the Catifa Carta product group and its packaging with relative recycled material and biogenic carbon content.

PRODUCT COMPOSITION						
Material	**Weight (kg)**	**Percentage (%)**	**Post-consumer recycled material (kg)**	**Post-consumer recycled material (%)**	**Biogenic carbon content (kg)**	**Biogenic carbon content (%)**
PE	0.02	0.3	-	-	-	-
Paint	0.03	0.6	-	-	-	-
PP	0.05	0.9	-	-	-	-
Steel	2.24	40.5	0.30	5.5%	-	-
Papershell	3.20	57.7			1.11	20.0%
Total product	*5.54*	*100*	*0.30*	*5.5%*	*1.11*	*20.0%*
PACKAGING COMPOSITION						
Material	**Weight (kg)**	**Percentage (%)**	**Post-consumer recycled material (kg)**	**Post-consumer recycled material (%)**	**Biogenic carbon content (kg)**	**Biogenic carbon content (%)**
PA	0.01	0.3	-	-	-	-
Steel	0.02	1.2	-	-	-	-
PE	0.04	2.2	-	-	-	-
Paper	0.08	4.0	-	-	0.03	1.4%
Carton	1.85	92.3	-	-	0.79	39.3%
*Total packaging**	*2.00*	*100*	-	-	*0.82*	*40.7%*

*the quantities quoted for the packaging were obtained from a weighted average between Catifa Carta's x1 and x4 packaging

ENVIRONMENTAL IMPACT DECLARATION

FUNCTIONAL UNIT

The functional unit of this study corresponds to 1 seat with a reference service life (RSL) of 15 years, the time during which the product maintains its function, including its packaging. It is assumed that the product has an estimated service life (ESL) equal to the RSL, as no data are available for its estimation.

SYSTEM BOUNDARIES

This EPD is of the cradle-to-grave and Module D type. The phases included in the study include the production of raw materials, components and packaging materials, the assembly of the product and packaging, the transport of raw materials and components, the storage of the product, the distribution, the use phase and the end of life of the packaging and product. Module D is also included in the study, which indicates the loads and benefits of using recycled raw materials and recycling.

Specifically, the Catifa Carta life cycle is divided into the following phases and information modules:

		Module	Modules declared	Geography	Share of specific data	Variation – products	Variation –sites
Product stage	Raw materials	A1	x	EU	<10%	240%	-
	Transport	A2	x	EU			-
	Manufacturing	A3	x	IT			-
Construction process stage	Transport	A4	x	GLO	-	-	-
	Construction installation	A5	x	GLO	-	-	-
Use stage	Use	B1	x	GLO	-	-	-
	Maintenance	B2	x	GLO	-	-	-
	Repair	B3	x	GLO	-	-	-
	Replacement	B4	x	GLO	-	-	-
	Refurbishment	B5	x	GLO	-	-	-
	Operational energy use	B6	x	GLO	-	-	-
	Operational water use	B7	x	GLO	-	-	-
End of life stage	De-construction demolition	C1	x	GLO	-	-	-
	Transport	C2	x	GLO	-	-	-
	Waste processing	C3	x	GLO	-	-	-
	Disposal	C4	x	GLO	-	-	-
Resource recovery stage	Reuse-recovery-recycling potential	D	x	EU	-	-	-

No cut-off rules were applied.

TEMPORAL BOUNDARIES

Primary data come from Arper and refer to the year 2024. Secondary data come from the ecoinvent v3.10 database (allocation, cut-off by classification) published in 2024 [4].

GEOGRAPHICAL REPRESENTATIVENESS

The product and packaging are manufactured in Italy. The product is sold both in Italy and abroad, the distribution and end-of-life scenarios consider the sales of the product in the reference year.

LIFE CYCLE BOUNDARIES

As stated in the PCR 'Construction products' [9], it was assumed that the company's capital assets (e.g. buildings and infrastructure, work equipment and personnel activities) do not make a significant contribution to the life cycle assessment and are therefore not considered in the product analysis. For secondary processes derived from the ecoinvent database, the infrastructure contribution was not excluded.

Biogenic carbon removals and emissions were assessed both as total Global Warming Potential (GWP) (comprising fossil GWP, biogenic GWP and land use GWP) and separately as biogenic GWP. As required by PCR 2019:14 v1.3.4 [9] an additional indicator (GWP GHG) using the biogenic carbon neutrality approach was included.

ALLOCATION CRITERIA

For the end-of-life allocation, the polluter-pays principle is adopted. With this approach for virgin resources, raw materials and production processes are included and outputs subject to recycling are considered as inputs for the next life cycle, therefore no allocation is made for materials subject to recycling. However, the transport of waste to the recycling plant is included in the analysis. For energy and water consumption of the storage warehouse, an allocation on a volumetric basis was applied, based on the actual volume occupied by Arper products stored in the year 2024.

INVENTORY ANALYSIS

This LCA is based on primary data for key aspects of the study, such as materials and weight of components and packaging.

For all processes for which no primary or representative data were available, reference was made to the LCA database ecoinvent v3.10, allocation, cut-off by classification.

Primary data obtained from the supplier were used for the materials of the components that make up Catifa Carta. The components for which primary data were available are seat, feet and frame. For the processes relating to the paint composition data from datasheets obtained from suppliers were used. Proxy processes were chosen for the maintenance and disposal of the resin in the PaperShell shell.

The PaperShell shell is produced by the company of the same name in Sweden, PaperShell AB, which provided a file containing its own LCA on the PaperShell material and a descriptive report [19], which enabled the material to be understood and the shell to be modelled.

The software SimaPro 9.6 [15] containing LCA databases including ecoinvent was used to calculate the LCA.

Data quality was assessed by means of a data quality matrix for processes contributing >5% incidence for the main LCIA categories and by means of a qualitative analysis for all other processes. A sensitivity analysis of the proxy data was performed to verify that their incidence on the main impact categories was less than 10%, as required by the reference PCRs.

All material inputs of the production process were evaluated.

The methodology described in the data collection and EPD procedure manual was used to collect the data and carry out the LCA calculations [2][3].

The national residual mix from the database ecoinvent v.3.10 (Electricity, medium voltage {IT}| electricity, medium voltage, residual mix | Cut-off, S) is used for electricity consumption. In the case of Catifa Carta, which has a polypropylene shell and metal frame, the processes involved are the injection moulding of the seat, back and feet, the cutting, bending and welding of the frame and its painting/chroming.

The GWP-GHG value of the energy mix was calculated using the process Electricity, medium voltage {IT}| electricity, medium voltage, residual mix | Cut-off, S from ecoinvent v3.10 database.

For product storage (A1-A3), primary data provided by the company in charge of the storage of the products were used. Product storage consumption was allocated on a volumetric basis, assuming that Arper products stored in the reference year occupy 80% of the warehouse volume in height and 60% in width.

For energy consumption in the storage phase (A1-A3), the national residual mix from the ecoinvent v3.10 database was used (Electricity, medium voltage {IT}| electricity, medium voltage, residual mix | Cut-off, S).

For the distribution phase (A4), data on sales in the destination countries were used, evaluating 100% of the products sold. Truck transport was considered (Transport, freight, lorry 16-32 metric ton, EURO4 {RER}| transport, freight, lorry 16-32 metric ton, EURO4 | Cut-off, S) between Arper's headquarters and the capital of the exporting country.

For the distribution to countries for which transport by ship is foreseen, transport by lorry (Transport, freight, lorry 16-32 metric ton, EURO4 {RER}| transport, freight, lorry 16-32 metric ton, EURO4 | Cut-off, S) to the nearest port of the Arper plant and transport by ship (Transport, freight, sea, container ship {GLO}| transport, freight, sea, container ship | Cut-off, S) to the main port of the foreign country evaluated is assumed. Local transport of 300 km by truck is also evaluated (Transport, freight, lorry 16-32 metric ton, EURO4 {RER}| transport, freight, lorry 16-32 metric ton, EURO4 | Cut-off, S).

Google Maps [17] and Sea Distances [16] were used for the calculation of distribution distances (A4), for truck and ship transport respectively.

In the use phase modules B1, B3, B4, B5, B6 and B7 are equal to zero as they are not applicable to the present study.

For the maintenance of the product (B2) we assume a consumption of 0.1 L hot water and 0.8 g soap per chair. For the soap, a solution with 5% alkylbenzene sulfonate is assumed. To heat the water, a consumption of 5.58 MJ of heat energy is assumed.

For the end-of-life of the product the module C1 is equal to zero as they are not applicable to the present study.

For end-of-life product and packaging (C2) a 100 km transport by truck is assumed (Transport, freight, lorry 16-32 metric ton, EURO4 {RER}| transport, freight, lorry 16-32 metric ton, EURO4 | Cut-off, S e Transport, freight, lorry 16-32 metric ton, EURO4 {RoW}| transport, freight, lorry 16-32 metric ton, EURO4 | Cut-off, S).

Recycling processes were considered in module C3 and incineration and landfill processes in module C4.

For the end-of-life scenario, national data referring to the countries where the product is sold were used (OECD data for non-European countries and Eurostat data for European countries) [7][8].

ENVIRONMENTAL IMPACT ASSESSMENT

For the assessment of the environmental performance of products, the method defined by the c-PCR-021 Furniture (c-PCR to PCR 2019:14), PCR 2019:14 v1.3.4 and EN 15804:2012+A2:2019/AC2021 was used.

The environmental indicators according to the reference standards are shown in Table 2.

Table 2 - Environmental impact indicators included in the study

Environmental impact indicators	Unit
Global Warming Potential - total (GWP-total)	kg CO2 eq.
Global Warming Potential - fossil fuels (GWP-fossil)	kg CO2 eq.
Global Warming Potential - biogenic (GWP-biogenic)	kg CO2 eq.
Global Warming Potential - land use and land use change (GWP-luluc)	kg CO2 eq.
Depletion potential of the stratospheric ozone layer (ODP)	kg CFC-11 eq.
Acidification potential, Accumulated Exceedance (AP)	mol H+ eq.
Europhication potential - freshwater (EP-freshwater)	kg P eq
Europhication potential - marine (EP-marine)	kg N eq.
Europhication potential - terrestrial (EP-terrestrial)	mol N eq.
Photochemical Ozone Creation Potential (POCP)	kg NMVOC eq.
Abiotic depletion potential - non-fossil resources (ADPE)	kg Sb eq.
Abiotic depletion potential - fossil resources (ADPF)	MJ
Water (user) deprivation potential (WDP)	m3 world eq. deprived
Additional mandatory environmental impact indicators	
Global Warming Potential (GWP-GHG)	kg CO2 eq.
Additional environmental impact indicators	
Particulate Matter emissions (PM)	Disease incidence
Ionizing radiation, human health (IRP)	kBq U235 eq.
Eco-toxicity - freshwater (ETP-fw)	CTUe
Human toxicity, cancer effect (HTP-c)	CTUh
Human toxicity, non-cancer effects (HTP-nc)	CTUh
Land use related impacts/Soil quality (SQP)	dimensionless
Indicators describing resource use	
Use of renewable primary energy as energy carrier (PERE)	MJ
Use of renewable primary energy resources used as raw materials (PERM)	MJ
Total use of renewable primary energy (PERT)	MJ
Use of non renewable primary energy as energy carrier (PENRE)	MJ
Use of non renewable primary energy resources used as raw materials (PENRM)	MJ
Total use of non renewable primary energy resource (PENRT)	MJ
Use of secondary material (SM)	kg
Use of renewable secondary fuels (RSF)	MJ
Use of non renewable secondary fuels (NRSF)	MJ

Net use of fresh water (FW)	m^3
Environmental information describing waste categories	
Hazardous waste disposed (HWD)	kg
Non harzardous waste disposed (NHWD)	kg
Radioactive waste disposed (RWD)	kg
Environmental information describing output flows	
Components for re-use (CRU)	kg
Materials for recycling (MFR)	kg
Materials for energy recovery (MER)	kg
Exported energy (EE), electricity	MJ
Exported energy (EE), thermal	MJ

The environmental impact indicators come from the methods EN15804 + A2 (adapted), version February 2023, based on the EF 3.1 reference package (July 2022) and AWARE 1.2c. For the energy indicators, the CED method (LHV) and PCR Option A were used. [9]. For the calculation of waste, the EDIP 2003 method was used. LHV values and efficiencies from the ecoinvent 3.10 database were used for the calculation of outflows [4].

The following tables show the results of the representative product life cycle indicators for Catifa Carta products with PaperShell and metal frame. The indicators are broken down into the contribution of the various modules that make up the life cycle of the product. Secondary materials and fuels, components for reuse and materials for energy recovery are not included in the study.

Table 3 - Reference product results for the Catifa Carta product group for mandatory indicators according to EN 15804

Indicator	Unit	A1-A3	A4	A5	B1	B2	B3-C1	C2	C3	C4	D
GWP-total	kg CO_2 eq	1.01E+01	1.47E+00	2.18E+00	0.00E+00	4.13E-01	0.00E+00	1.45E-01	1.64E+00	2.43E+00	-2.54E+00
GWP-fossil	kg CO_2 eq	1.48E+01	1.47E+00	1.85E-01	0.00E+00	4.13E-01	0.00E+00	1.45E-01	1.62E-01	7.21E-01	-4.99E+00
GWP-biogenic	kg CO_2 eq	-4.80E+00	9.60E-04	2.00E+00	0.00E+00	1.90E-04	0.00E+00	9.44E-05	1.48E+00	1.71E+00	2.48E+00
GWP-luluc*	kg CO_2 eq	7.90E-02	4.92E-04	4.51E-05	0.00E+00	4.87E-05	0.00E+00	4.83E-05	8.54E-05	9.48E-06	-3.01E-02
ODP	kg CFC11 eq	3.29E-07	2.90E-08	1.59E-09	0.00E+00	1.60E-08	0.00E+00	2.86E-09	1.94E-09	6.55E-10	-7.66E-08
AP	mol H^+ eq	6.61E-02	7.14E-03	6.15E-04	0.00E+00	2.91E-04	0.00E+00	5.79E-04	7.11E-04	3.66E-04	-2.12E-02
EP-freshwater*	kg P eq	5.62E-03	9.67E-05	1.44E-05	0.00E+00	1.16E-05	0.00E+00	9.84E-06	3.19E-05	4.34E-06	-2.28E-03
EP-marine	kg N eq	1.70E-02	2.50E-03	6.16E-04	0.00E+00	8.99E-05	0.00E+00	2.18E-04	3.05E-04	8.85E-04	-5.06E-03
EP-terrestrial	mol N eq	1.65E-01	2.73E-02	2.41E-03	0.00E+00	9.33E-04	0.00E+00	2.37E-03	2.57E-03	1.43E-03	-5.06E-02
POCP	kg NMVOC eq	5.62E-02	9.70E-03	1.00E-03	0.00E+00	6.80E-04	0.00E+00	8.76E-04	9.09E-04	6.90E-04	-2.15E-02
ADPE**	kg Sb eq	9.28E-05	4.60E-06	4.87E-07	0.00E+00	3.82E-07	0.00E+00	4.67E-07	1.32E-06	7.34E-08	-3.34E-05
ADPF**	MJ	2.27E+02	2.06E+01	1.37E+00	0.00E+00	6.48E+00	0.00E+00	2.05E+00	1.71E+00	4.25E-01	-5.95E+01
WDP	m^3 depriv.	5.94E+00	8.33E-02	-8.68E-03	0.00E+00	1.27E-02	0.00E+00	8.44E-03	1.14E-02	-3.73E-02	7.08E+02
Acronyms	Climate change: GWP-total; Climate change - Fossil: GWP-fossil; Climate change - Biogenic: GWP-biogenic; Climate change - Land use and LU change: GWP-luluc; Ozone depletion: ODP; Acidification: AP; Eutrophication, freshwater: EP-freshwater; Eutrophication, marine: EP-marine; Eutrophication, terrestrial: EP-terrestrial; Photochemical ozone formation: POCP; Resource use, minerals and metals: ADPE; Resource use, fossils: ADPF; Water use (from AWARE): WDP										

*The results of the impact categories abiotic depletion of minerals and metals, land use, human toxicity (cancer), human toxicity, non-cancer and ecotoxicity (freshwater) may be highly uncertain in LCAs that include capital goods/infrastructure in generic datasets, in case infrastructure/capital goods contribute greatly to the total results. This is because the LCI data of infrastructure/capital goods used to quantify these indicators in currently available generic datasets sometimes lack temporal, technological and geographical representativeness. Caution should be exercised when using the results of these indicators for decision-making purposes.

**The results of this environmental impact indicator should be used with caution because of the uncertainties of these results or because experience with the indicator is limited. Using the results of modules A1-A3 without taking into account the results of module C is not recommended.

Table 4 - Reference product results for the Catifa Carta product group for additional indicators

Indicator	Unit	A1-A3	A4	A5	B1	B2	B3-C1	C2	C3	C4	D
GWP-GHG	kg CO_2 eq	1.50E+01	1.47E+00	6.04E-01	0.00E+00	4.13E-01	0.00E+00	1.45E-01	2.05E-01	1.58E+00	-5.03E+00
PM	disease inc.	1.67E-06	1.16E-07	1.13E-08	0.00E+00	1.95E-09	0.00E+00	1.17E-08	1.42E-08	3.54E-09	-5.52E-07
IRP	kBq U-235 eq	3.89E+00	2.59E-02	4.86E-03	0.00E+00	4.43E-03	0.00E+00	2.57E-03	9.34E-03	1.82E-03	-1.04E-01
ETP-fw	CTUe	2.73E+02	5.48E+00	5.67E+00	0.00E+00	4.13E-01	0.00E+00	5.50E-01	1.36E+00	6.85E+00	-2.48E+02
HTP-c*	CTUh	6.93E-07	1.02E-08	9.69E-10	0.00E+00	7.52E-10	0.00E+00	1.00E-09	1.38E-09	7.79E-10	-9.02E-07
HTP-nc*	CTUh	2.22E-07	1.26E-08	2.81E-09	0.00E+00	7.23E-10	0.00E+00	1.28E-09	2.49E-09	6.46E-09	-3.77E-08
SQP	Pt	5.02E+02	1.19E+01	6.88E-01	0.00E+00	1.40E-01	0.00E+00	1.22E+00	2.60E+00	5.81E-01	-2.28E+02
Acronyms	Climate change - GHG: GWP-GHG; Particulate matter: PM; Ionising radiation: IRP; Ecotoxicity, freshwater: ETP-fw; Human toxicity, cancer: HTP-c; Human toxicity, non-cancer: HTP-nc; Land use: SQP										

Table 5 - Reference product results for the Catifa Carta product group for resource use

Indicator	Unit	A1-A3	A4	A5	B1	B2	B3-C1	C2	C3	C4	D
PERE	MJ	9.01E+01	3.32E-01	4.95E+00	0.00E+00	5.15E-02	0.00E+00	3.31E-02	1.15E-01	8.57E+00	-4.56E+01
PERM	MJ	4.49E+01	0.00E+00	-2.48E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-8.98E+00	-1.11E+01	0.00E+00
PERT	MJ	1.35E+02	3.32E-01	5.87E-02	0.00E+00	5.15E-02	0.00E+00	3.31E-02	1.15E-01	3.09E-02	-4.56E+01
PENRE	MJ	2.23E+02	2.06E+01	2.17E+00	0.00E+00	6.48E+00	0.00E+00	2.05E+00	1.71E+00	7.19E-01	-5.96E+01
PENRM	MJ	4.78E+00	0.00E+00	-2.09E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-2.28E+00	-4.03E-01	0.00E+00
PENRT	MJ	2.27E+02	2.06E+01	1.37E+00	0.00E+00	6.48E+00	0.00E+00	2.05E+00	1.71E+00	4.25E-01	-5.96E+01
SM	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	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	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	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	m^3	2.27E-01	2.78E-03	-7.38E-04	0.00E+00	4.33E-04	0.00E+00	2.81E-04	5.14E-04	-2.33E-03	1.73E+01
Acronyms	Use of renewable primary energy excluding renewable primary energy resources used as raw material: PERE; Use of renewable primary energy resources used as raw material: PERM; Total use of renewable primary energy resources: PERT; Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw material: PENRE; Use of non-renewable primary energy resources used as raw material: PENRM; Total use of non-renewable primary energy resources: PENRT; Use of secondary material: SM; Use of renewable secondary fuels: RSF; Use of non-renewable secondary fuels: NRSF; Net use of fresh water: FW										

Table 6 - Reference product results for the Catifa Carta product group for waste production

Indicator	Unit	A1-A3	A4	A5	B1	B2	B3-C1	C2	C3	C4	D
HWD	kg	1.19E-03	1.38E-04	9.88E-06	0.00E+00	3.10E-05	0.00E+00	1.38E-05	1.15E-05	6.17E-06	-8.72E-04
NHWD	kg	2.77E+00	9.51E-01	1.85E+00	0.00E+00	6.62E-03	0.00E+00	9.73E-02	3.74E+00	9.56E-01	-2.98E-01
RWD	kg	9.09E-04	6.44E-06	1.23E-06	0.00E+00	1.10E-06	0.00E+00	6.39E-07	2.38E-06	4.35E-07	-2.14E-05
Acronyms	Hazardous waste disposed: HWD; Non-hazardous waste disposed: NHWD; Radioactive waste disposed: RWD										

Table 7 - Reference product results for the Catifa Carta product group for outflows

Indicator	Unit	A1-A3	A4	A5	B1	B2	B3-C1	C2	C3	C4	D
CRU	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MFR	kg	0.00E+00	0.00E+00	1.51E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.66E+00	0.00E+00	0.00E+00
MER	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EEE	MJ	0.00E+00	0.00E+00	4.74E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.46E-01	0.00E+00
EET	MJ	0.00E+00	0.00E+00	8.54E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.70E+00	0.00E+00
Acronyms	Components for re-use: CRU; Materials for recycling: MFR; Materials for energy recovery: MER; Exported energy - electricity: EEE; Exported energy - heat: EET										

VARIABILITY OF IMPACT INDICATOR RESULTS DEPENDING ON THE STRUCTURE OF CATIFA CARTA

Table 8 - *Variability of results between the reference product and the variant Catifa Carta trestle aluminium for mandatory indicators according to EN 15804*

Indicator	Unit	A1-A3	A4	A5	B1	B2	B3-C1	C2	C3	C4	D
GWP-total	kg CO_2 eq	331%	60%	58%	0%	0%	0%	55%	9%	2%	-219%
GWP-fossil	kg CO_2 eq	222%	60%	244%	0%	0%	0%	55%	44%	8%	-110%
GWP-biogenic	kg CO_2 eq	8%	67%	40%	0%	7%	0%	64%	5%	-1%	0%
GWP-luluc*	kg CO_2 eq	73%	57%	83%	0%	0%	0%	53%	62%	7%	-302%
ODP	kg CFC11 eq	126%	61%	76%	0%	3%	0%	57%	44%	19%	-92%
AP	mol H^+ eq	276%	35%	64%	0%	-1%	0%	54%	53%	10%	-179%
EP-freshwater*	kg P eq	172%	62%	80%	0%	-1%	0%	53%	74%	53%	-99%
EP-marine	kg N eq	215%	44%	32%	0%	0%	0%	55%	48%	-9%	-104%
EP-terrestrial	mol N eq	226%	43%	65%	0%	0%	0%	55%	47%	15%	-104%
POCP	kg NMVOC eq	229%	48%	57%	0%	-1%	0%	55%	41%	4%	-97%
ADPE**	kg Sb eq	277%	63%	79%	0%	0%	0%	55%	92%	23%	109%
ADPF**	MJ	175%	60%	73%	0%	0%	0%	55%	45%	17%	-122%
WDP	m^3 depriv.	90%	62%	309%	0%	-1%	0%	54%	43%	140%	0%
Acronyms	Climate change: GWP-total; Climate change - Fossil: GWP-fossil; Climate change - Biogenic: GWP-biogenic; Climate change - Land use and LU change: GWP-luluc; Ozone depletion: ODP; Acidification: AP; Eutrophication, freshwater: EP-freshwater; Eutrophication, marine: EP-marine; Eutrophication, terrestrial: EP-terrestrial; Photochemical ozone formation: POCP; Resource use, minerals and metals: ADPE; Resource use, fossils: ADPF; Water use (from AWARE): WDP										

Table 9 - Variability of results between the reference product and the variant Catifa Carta trestle aluminium for additional indicators

Indicator	Unit	A1-A3	A4	A5	B1	B2	B3-C1	C2	C3	C4	D
GWP-GHG	kg CO_2 eq	222%	60%	82%	0%	0%	0%	55%	47%	-3%	-111%
PM	disease inc.	139%	63%	57%	0%	-1%	0%	55%	44%	25%	-75%
IRP	kBq U-235 eq	50%	63%	76%	0%	2%	0%	58%	78%	5%	-622%
ETP-fw	CTUe	76%	62%	-49%	0%	-2%	0%	55%	56%	-46%	-16%
HTP-c*	CTUh	38%	62%	90%	0%	0%	0%	57%	49%	19%	-18%
HTP-nc*	CTUh	145%	63%	47%	0%	-1%	0%	55%	69%	-3%	-106%
SQP	Pt	31%	64%	83%	0%	-1%	0%	55%	106%	5%	-2%
Acronyms	Climate change - GHG: GWP-GHG; Particulate matter: PM; Ionising radiation: IRP; Ecotoxicity, freshwater: ETP-fw; Human toxicity, cancer: HTP-c; Human toxicity, non-cancer: HTP-nc; Land use: SQP										

Table 10 - Variability of results between the reference product and the variant Catifa Carta trestle painted for mandatory indicators according to EN 15804

Indicator	Unit	A1-A3	A4	A5	B1	B2	B3-C1	C2	C3	C4	D
GWP-total	kg CO_2 eq	358%	61%	58%	0%	0%	0%	55%	9%	2%	-225%
GWP-fossil	kg CO_2 eq	241%	61%	244%	0%	0%	0%	55%	45%	8%	-113%
GWP-biogenic	kg CO_2 eq	9%	68%	40%	0%	7%	0%	64%	5%	-1%	0%
GWP-luluc*	kg CO_2 eq	74%	58%	83%	0%	0%	0%	53%	63%	7%	-302%
ODP	kg CFC11 eq	158%	62%	76%	0%	3%	0%	58%	45%	19%	-93%
AP	mol H^+ eq	289%	36%	64%	0%	-1%	0%	55%	54%	10%	-181%
EP-freshwater*	kg P eq	179%	64%	80%	0%	-1%	0%	54%	75%	54%	-102%
EP-marine	kg N eq	224%	45%	32%	0%	0%	0%	55%	49%	-9%	-107%
EP-terrestrial	mol N eq	235%	45%	65%	0%	0%	0%	55%	47%	15%	-107%
POCP	kg NMVOC eq	243%	50%	57%	0%	-1%	0%	56%	41%	4%	-99%
ADPE**	kg Sb eq	291%	64%	79%	0%	0%	0%	55%	93%	24%	105%
ADPF**	MJ	193%	62%	73%	0%	0%	0%	55%	46%	17%	-125%
WDP	m^3 depriv.	100%	63%	309%	0%	-1%	0%	54%	45%	140%	0%
Acronyms	Climate change: GWP-total; Climate change - Fossil: GWP-fossil; Climate change - Biogenic: GWP-biogenic; Climate change - Land use and LU change: GWP-luluc; Ozone depletion: ODP; Acidification: AP; Eutrophication, freshwater: EP-freshwater; Eutrophication, marine: EP-marine; Eutrophication, terrestrial: EP-terrestrial; Photochemical ozone formation: POCP; Resource use, minerals and metals: ADPE; Resource use, fossils: ADPF; Water use (from AWARE): WDP										

Table 11 - Variability of results between the reference product and the variant Catifa Carta trestle painted for additional indicators

Indicator	Unit	A1-A3	A4	A5	B1	B2	B3-C1	C2	C3	C4	D
GWP-GHG	kg CO_2 eq	240%	61%	82%	0%	0%	0%	55%	48%	-3%	-114%
PM	disease inc.	143%	64%	57%	0%	-1%	0%	55%	45%	25%	-77%
IRP	kBq U-235 eq	54%	64%	76%	0%	2%	0%	59%	79%	5%	-617%
ETP-fw	CTUe	82%	63%	-49%	0%	-2%	0%	55%	56%	-46%	-21%
HTP-c*	CTUh	40%	63%	90%	0%	0%	0%	58%	50%	19%	-23%
HTP-nc*	CTUh	152%	64%	47%	0%	-1%	0%	55%	70%	-3%	-108%
SQP	Pt	32%	65%	83%	0%	-1%	0%	55%	107%	5%	-2%
Acronyms	Climate change - GHG: GWP-GHG; Particulate matter: PM; Ionising radiation: IRP; Ecotoxicity, freshwater: ETP-fw; Human toxicity, cancer: HTP-c; Human toxicity, non-cancer: HTP-nc; Land use: SQP										

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ADDITIONAL ENVIRONMENTAL INFORMATION

The Catifa Carta product is GREENGUARD GOLD certified, ensuring compliance with the emission limits of UL 2818.

Licence number: 342334-420, Validity: from 2024-12-16 to 2025-11-04

The Catifa Carta product is FSC certified.

Licence number: DNV-COC-001822, Validity: from 2024-05-03 to 2029-05-02

MINIMUM ENVIRONMENTAL CRITERIA (CAM) OF CATIFA CARTA

Catifa Carta 3134

Composition		INPUT/ input flow								OUTPUT/ end-of-life destination		
Component*	Material	Weight	Virgin	Recycled	Sub-product	Renewable Source	Non-Renewable Source	Disassembly	Repairability	End-of-life scenario		
		Kg	%	%	%	%	%	yes/no	yes/no	Recycling %	Energy Recovery %	Landfill %
Shell	Papershell	3,20	100	0	0	100	0	yes	yes	100		
Frame	Steel	2,28	81	19	0	0	100	yes	yes	100		
Feet	PP + Steel	0,034	100	0	0	0	100	yes	yes	100		
Hole cover cap	PP	0,013	100	0	0	0	100	yes	yes	100		
Stacking cap	PP	0,016	100	0	0	0	100	yes	yes	100		
Foot expander	PP	0,005	100	0	0	0	100	yes	yes	100		

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Catifa Carta 3136

Composition		INPUT/ input flow								OUTPUT/ end-of-life destination		
Component*	Material	Weight	Virgin	Recycled	Sub-product	Renewable Source	Non-Renewable Source	Disassembly	Repairability	End-of-life scenario		
		Kg	%	%	%	%	%	yes/no	yes/no	Recycling %	Energy Recovery %	Landfill %
Shell	Papershell	3,20	100	0	0	100	0	yes	yes	100		
Aluminium frame components	Aluminium	2,40	100	0	0	0	100	yes	yes	100		
Steel frame components	Steel	3,02	100	0	0	0	100	yes	yes	100		
Feet	PP + Steel	0,052	100	0	0	0	100	yes	yes	100		
Hole cover cap	PP	0,008	100	0	0	0	100	yes	yes	100		
Foot expander	PP	0,004	100	0	0	0	100	yes	yes	100		

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