Environmental Product Declaration

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

OTS PULSE, OTS ADVANCE, OTS BASIC

Electronic Lockers

EPD of multiple products, based on the average results of the product group

From **OJMAR S.A**

ojmar

INTELLIGENT LOCKING SYSTEMS

Programme:	The International EPD [®] System, <u>www.environdec.com</u>
Programme operator:	EPD International AB
EPD registration number:	S-P-11401
Publication date:	2023-12-14
Valid until:	2028-12-11

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



OJMAR, S.A. Polígono Industrial Lerun s/n.20870 Elgoibar (Spain) www.ojmar.com







General information

Programme information

Programme:	The International EPD [®] System					
	EPD International AB					
Addross	Box 210 60					
Address.	SE-100 31 Stockholm					
	Sweden					
Website:	www.environdec.com					
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CEN standard EN 15804 serves as the Core Product Category Rules (PCR)

Product category rules (PCR): PCR 2019:14 Construction products (EN 15804:A2) Version 1.2.5 Complementary product category rules (c-PCR 020) to PCR 2019:14: Building hardware (EN 17610:2022) VERSION: 2022-11-04

EN 17610:2022 Building hardware - Environmental product declarations - Product category rules complementary to EN 15804 for building hardware

PCR review was conducted by: PCR review was conducted by: The Technical Committee of the International EPD®System. See www.environdec.com/TCfor 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.

Independent third-party verification of the declaration and data, according to ISO 14025:2006: $\hfill \boxtimes$ External $\hfill \square$ Internal

Covering

 \Box EPD process certification \boxtimes EPD verification

Third party verifier: Tecnalia R&I Certificacion, SL Auditor: Eva Larzabal info@tecnaliacertificacion.com Accredited by: ENAC nº125/C-PR283 accreditation.

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

 \boxtimes Yes \Box 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, 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 EN 15804 and ISO 14025.



Company information

Owner of the EPD: Ojmar S.A.

Description of the organisation:

Ojmar is a SME with global presence that has been in business for over 100 years. A true European manufacturer, its uniqueness lies in the fact that we control the whole product flow: From conception and design to aftersales service, through production and quality control.

We specialize in furniture locking systems both mechanical and electronic, for different verticals such as Health & Fitness, Corporate offices, Hospitals, Education...

Ojmar is a trailblazer when it comes down to integral quality management; we comply with occupational prevention, hygiene, and safety standards.

ISO 9001 To ensure and optimize the high quality of our products and processes, Ojmar is certified in accordance with the ISO 9001 quality standard and maintains a comprehensive quality management system.

ISO 14001 Ojmar is also certified with the ISO 14001 international environmental standard, which establishes internationally recognized requirements for an environmental management system.



ISO 9001 and ISO 14001 certificates

Name and location of production site(s): OJMAR, S.A. Polígono Industrial Lerun s/n. 20870 Elgoibar (Spain)



Product information

<u>Products name:</u> This EPD covers the electronic lockers of the following product range: OTS Pulse, OTS Advance, OTS Basic.

Products description: This EPD covers the life-cycle analysis of a range of electronic locks for lockers.

OTS Pulse: OTS Pulse is a real-time wireless electronic locking system designed primarily for use in offices, fitness, wellness and recreational facilities. The lock can be operated either via smartphone or RFID technology, and is fully controlled wirelessly from Ojmar's cloud platform, allowing it to be managed remotely. It also provides real-time data and analytics.



OTS Pulse



OTS Advance: OTS Advance is a standalone RFID lock that allows multiple configuration modes as well as different levels of audit trail. Mainly intended for leisure facilities, offices and schools.

OTS Advance

OTS Basic: RFID standalone lock conceived to operate on a free mode basis. Mainly intended for leisure facilities, offices and schools



OTS Basic

The technical characteristics of the product are the following:

CARACTERISTIC	OTS Pulse	OTS Advance	OTS Basic		
Weight [kg]	0,331	0,331	0,325		
Dimensions	119,5 x 35 x 118 mm	119,5 x 35 x 118 mm	109,5 x 35 x 118 mm.		
Temperature range	-10°C/ 42°C	-10°C/ 42°C	-10°C/42°C		
Protection against external/ internal impact:	IK09	IK09	IK09		
Certificates	CE	ĽK, (€ F©	RA CE		

<u>UN CPC code:</u> No applicable UN CPC code.



LCA information

<u>Declared unit</u>: The declared unit is the baseline reference for which all information is collected. In this study, the declared unit is **"1 kg of electronic lockers"**.

Reference service life: 10 years in accordance with EN 14846.

<u>Geographical scope</u>: The geographical scope of this EPD is global.

<u>Time representativeness</u>: The data collection from factory (primary data) and electricity mix are from 2022/01/01 to 2022/12/31. 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 2022/01/01 to 2022/12/31. 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.

<u>Description of system boundaries:</u> According to the standard UNE-EN 15804_2012+A2_2020 (MARCH 2020) and PCR 2019:14 CONSTRUCTION PRODUCTS (version 1.2.5) the system boundary is cradle to gate with option B2 and modules C1–C4 and module D (A1–A3 + B2 + C + D). The life cycle stages A4-A5, B1, B3-B7 were excluded from the LCA study.

System diagram:





Manufacturing process:

The production process begins with the receipt of raw materials and components. Some components are manufactured at Ojmar through injection molding and subsequent nickel plating. These components include the reed, punch holder, and punch. The remaining parts, components, or assemblies (such as the motor and base plates) are sourced directly from suppliers, ready for mounting and assembly. The assembly takes place at Ojmar's facilities, except for the battery assembly in the battery holders, which is subcontracted to a nearby company.

After the complete assembly and successful completion of quality controls, the electronic locks are packed in batches in boxes, which are left in the warehouse until they are dispatched to the customer.

Author of the Life Cycle Assessment: IK Ingeniería Av. Cervantes 51,Edif. 10, panta 5, dpto. 48970 Basauri, Bizkaia (Spain)

Data quality

The international standards established for the development of environmental product declarations have been, ISO 14025 for the preparation of the environmental product declaration, ISO 14040 and ISO 14044 for the preparation of the life cycle analysis, UNE-EN 15804:2012+A2:2020 (MARCH 2020), Product Category Rules PCR - "2019:14 Construction products " (Version 1.2.5), Complementary product category rules (c-PCR 020) to PCR 2019:14: Building hardware (EN 17610:2022) VERSION: 2022-11-04 and the standard EN 17610:2022 Building hardware - Environmental product declarations - Product category rules complementary to EN 15804 for building hardware.

Data has been collected from 2022/01/01 to 2022/01/31 and is representative of that year. Data for raw material supply, transport to fabrication plant and production (A1-A3) is based on specific consumption data for the factory at Elgoibar. 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.
- ✓ 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 -"2019:14 CONSTRUCTION PRODUCTS" indicate that the life cycle inventory data should include a minimum of 95% of the total inputs (materials and energy) for each

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stage. This cut-off rule does not apply for hazardous materials and substances. No such cut-off criteria have been considered in this study.

Allocation.

Where necessary, such us waste generation and energy consumption, an allocation based in mass or power and time of operation, has been used.

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

Specific electricity mix, 100% renewable origin at high voltage (direct emissions and losses in grid) electricity is considered for the manufacturing process.

Electricity mix	Amount	Units
Specific electricity mix	3,98E-02	Kg CO2-eqv/kWh

LCA Scenarios and additional technical information

Maintenance (module B2):

During its reference lifetime, a single battery change shall be made, 4 units (0.0945 kg of batteries in total).

Scenario information						
Maintenance process	Battery change (0.0945 kg of batteries)					
Maintenance cycle	1 time in its RSL					
Waste material resulting from maintenance	0.0945 kg of used batteries					

Dismantling/demolition (module C1):

Since they are products that can be manually disassembled, the energy consumption of this phase is considered not relevant.

Transport (module C2):

With a collection rate of 100%, the transports are carried out by lorry (EURO 5) over 50 km.

Waste processing (modules C3 and C4):

A recycling ratio of 81,66%, incineration ratio of 8,05% and a landfilled ratio of 10,29% is considered in accordance with Waste electrical and electronic equipment (WEEE) by waste management operations statistics, published by <u>Eurostat</u>. These percentages are representative of the areas where the product is marketed.

Recyclability potentials (module D):

Module D contains credits from the recycling of the electronic lockers in module C3. The electronic locker is recycled as WEEE, and the recycled materials (mainly scrap of metals and plastics) are use in substitution of virgin materials. The loads of recycling process and the benefits of substitution of virgin materials have been considered.

Processes	Per Declared unit					
Collection process apositied by type	1,00E+00	Kg collected separatelly				
Collection process specified by type	0,00E+00	Kg collected with mixed construction waste				
	0,00E+00	Kg for reuse				
Recovery system specified by type	8,16E-01	Kg for recycling				
	0,00E+00	Kg for energy recovery				
Dianopal apositied by type	8,05E-02	Kg for incineration				
Disposal specified by type	1,02E-01	Kg for final disposal				
Assumptions for scenario transportation	Lorry 16-32 Consum Dist	r metric ton, EURO5 ption: 0,03kg/km tance:50 km				

LCA Scenarios for end of life



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

	Pro	oduct sta	age	Constr proces	ruction s stage	Use stage				End of life stage				Resource recovery stage			
Module	Z Raw material supply	5 Transport	ວັ Manufacturing	Z Transport	 Construction installation 	Dee Dee	ង Maintenance	ង្គ Repair	Replacement	ក្លួ Refurbishment	Derational energy use	Dperational water use	De-construction	3 Transport	2 Waste processing	2 Disposal	7 Reuse-Recovery- Recycling-potential
Woulle	AI	AZ	AJ	A4	AJ	Ы	D2	БЭ	D4	БŰ	Бû	• • /		62	US	64	D
Modules declared	Х	x	х	ND	ND	ND	Х	ND	ND	ND	ND	ND	х	Х	х	х	х
Geography	EU	EU	EU	ND	ND	ND	GLO	ND	ND	ND	ND	ND	GLO	GLO	GLO	GLO	GLO
Specific data		>90%		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – products		5,43%		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – sites		0%		-	-	-	-	-	-	-	-	-	-	-	-	-	-

ND: Not declared

The impacts of the three products (PULSE, ADVANCE and BASIC) have been calculated in SIMAPRO and as the results are very similar in all environmental impact indicators (less than 10% variation), for example GWP-GHG indicator A-C comparation:

Impact category	Unit	ADVANCE	PULSE	BASIC	Difference between the highest and lowest result
GWP -GHG	kg CO2 eq	1,29E+01	1,29E+01	1,22E+01	5,43%

The average of the 3 electronic lockers, according to their production, has been presented in this EPD.

Content information

	Per 1 kg						
Product components	Weight, kg	Post-consumer material, weight-%	Renewable material, weight-%				
Plastic components	5,64E-01	0,00%	0,00%				
Metal components	1,76E-01	0,00%	0,00%				
Battery	2,61E-01	0,00%	0,00%				
TOTAL	1,00 E+00	0,00%	0,00%				
Packaging materials	Weight, kg	Weight-% (pro	oduct+packaging)				
Cardboard	1,15E+00	51	,92%				
Paper	6,06E-03	0	,27%				
Wood	2,23E-02	1,01%					
plastic	1,82E-05	0,00%					
Metal	3,49E-02	1,58%					

<u>Packaging</u>: The product is transported to the customer supplied in cartons in palletized and strapped boxes.

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



Environmental Information

As the study does not consider phase A5, the biogenic CO_2 adjustment has not been included in A1-A3 to compensate for the virtual output that would correspond in A5. The value of this adjustment being 7.08E-01 kg CO_2 eq.

Potential environmental impact - mandatory indicators according to EN 15804:

Results per declared unit								
Indicator	Unit	A1-A3	B2	C1	C2	C3	C4	D
GWP-fossil	kg CO ₂ eq.	1,08E+01	1,42E+00	0,00E+00	8,31E-03	1,50E-01	1,57E-01	-2,93E+00
GWP-biogenic	kg CO ₂ eq.	1,38E-01	4,48E-03	0,00E+00	3,32E-06	3,31E-04	1,10E-05	-5,93E-03
GWP-luluc	kg CO ₂ eq.	1,70E-02	1,43E-03	0,00E+00	3,26E-06	1,97E-04	2,01E-06	-7,47E-04
GWP-total	kg CO ₂ eq.	1,09E+01	1,42E+00	0,00E+00	8,32E-03	1,51E-01	1,57E-01	-2,94E+00
ODP	kg CFC 11 eq.	1,58E-05	1,52E-05	0,00E+00	1,92E-09	2,89E-08	4,66E-10	-2,28E-08
AP	mol H⁺ eq.	7,57E-02	5,65E-03	0,00E+00	3,37E-05	8,91E-04	4,45E-05	-1,10E-02
EP-freshwater	kg PO₄ ³⁻ eq.	1,62E-03	1,44E-04	0,00E+00	1,79E-07	1,70E-05	1,64E-07	-1,66E-04
EP-freshwater	kg P eq.	5,28E-04	4,68E-05	0,00E+00	5,83E-08	5,53E-06	5,35E-08	-5,42E-05
EP-marine	kg N eq.	1,06E-02	1,00E-03	0,00E+00	1,01E-05	1,85E-04	3,39E-05	-1,88E-03
EP-terrestrial	mol N eq.	1,10E-01	1,09E-02	0,00E+00	1,11E-04	2,06E-03	2,21E-04	-2,00E-02
POCP	kg NMVOC eq.	3,50E-02	3,59E-03	0,00E+00	3,40E-05	8,74E-04	5,54E-05	-7,78E-03
ADP-minerals&metals*	kg Sb eq.	1,26E-03	8,60E-05	0,00E+00	2,89E-08	7,27E-07	1,03E-08	-1,24E-04
ADP-fossil*	MJ	1,49E+02	1,26E+01	0,00E+00	1,26E-01	2,89E+00	4,46E-02	-4,42E+01
WDP	m ³ deprive	4,64E+00	5,64E-01	0,00E+00	3,76E-04	1,91E-02	3,41E-03	-1,26E+00

* 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.

Potential environmental impact - additional mandatory and voluntary indicators

Results per declared unit									
Indicator	Indicator Unit A1-A3 B2 C1 C2 C3 C4 C								
GWP-GHG ¹	kg CO ₂ eq.	1,09E+01	1,42E+00	0,00E+00	8,32E-03	1,51E-01	1,57E-01	-2,94E+00	

Use of resources

Results per declared unit								
Indicator Unit A1-A3 B2 C1 C2 C3	C4	D						
PERE MJ 3,08E+01 1,45E+00 0,00E+00 1,77E-03 1,63E-01	9,45E-04	-5,78E-01						
PERM MJ 1,90E+01 0,00E+00 0,00E+00 0,00E+00 0,00E+00 0	0,00E+00	0,00E+00						
PERT MJ 4,98E+01 1,45E+00 0,00E+00 1,77E-03 1,63E-01	9,45E-04	-5,78E-01						
PENRE MJ 1,30E+02 1,26E+01 0,00E+00 1,26E-01 2,89E+00	4,46E-02	-4,42E+01						
PENRM MJ. 1,85E+01 0,00E+00 0,00E+00 0,00E+00 0,00E+00 0	0,00E+00	0,00E+00						
PENRT MJ 1,48E+02 1,26E+01 0,00E+00 1,26E-01 2,89E+00	4,46E-02	-4,42E+01						
SM kg 0,00E+00 0,00E+00 0,00E+00 0,00E+00 0,00E+00 0	0,00E+00	0,00E+00						
RSF MJ 0,00E+00 0,00E+00 0,00E+00 0,00E+00 0,00E+00 0	0,00E+00	0,00E+00						

¹ The indicator includes all greenhouse gases included in GWP-total but excludes biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. This indicator is thus equal to the GWP indicator originally defined in EN 15804:2012+A1:2013.





NRSF	MJ	0,00E+00						
FW	m ³	1,25E-01	1,69E-02	0,00E+00	1,40E-05	8,30E-04	1,05E-04	-3,04E-02
Acronyms	 PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy resources used as raw material PENRT = Total use of non-renewable primary energy resources; SM = Use of secondary material; RSF = Use of non-renewable secondary fuels; FW = Use of net fresh water 							materials; ble primary y energy w materials; F = Use of water

Waste production

Results per declared unit								
Indicator	Unit	A1-A3	B2	C1	C2	C3	C4	D
Hazardous waste disposed	kg	2,25E-03	7,37E-04	0,00E+00	3,28E-07	3,66E-06	1,18E-07	-7,37E-04
Non-hazardous waste disposed	kg	1,68E+00	3,10E-01	0,00E+00	6,47E-03	1,26E-02	8,06E-02	-6,76E-02
Radioactive waste disposed	kg	3,55E-04	5,71E-05	0,00E+00	8,50E-07	1,52E-05	1,47E-07	-1,58E-05

Output flows

Results per declared unit								
Indicator	Unit	A1-A3	B2	C1	C2	C3	C4	D
Components for re-use	kg	0,00E+00						
Material for recycling	kg	9,45E+00	9,45E-02	0,00E+00	0,00E+00	2,12E-01	0,00E+00	0,00E+00
Materials for energy recovery	kg	0,00E+00						
Exported energy, electricity	MJ	0,00E+00						
Exported energy, thermal	MJ	0,00E+00						

Information on biogenic carbon content

Results per declared unit					
BIOGENIC CARBON CONTENT	Unit	QUANTITY			
Biogenic carbon content in product	kg C	0,00E+00			
Biogenic carbon content in packaging	kg C	1,93E-01			

Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO_2 .



Additional information

The technical datasheet and the safety datasheet can be found on the following webpage:

https://www.ojmar.com/en/electronic-locks-for-lockers/

Information related to Sector EPD This is an individual EPD®.

Differences versus previous versions This is the first version of the EPD®.

EPD[®]

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 2019:14 Construction products (EN 15804: A2) version 1.2.5
- EN 15804:2012+A2:2019 Sustainability of construction works-Environmental Product Declarations-Core rules for the product category of construction products
- Complementary product category rules (c-PCR 020) to PCR 2019:14: Building hardware (EN 17610:2022) VERSION: 2022-11-04
- EN 17610:2022 Building hardware Environmental product declarations Product category rules complementary to EN 15804 for building hardware



VERIFICATION STATEMENT CERTIFICATE *CERTIFICADO DE DECLARACIÓN DE VERIFICACIÓN*

Certificate No. / Certificado nº: EPD09501

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:

OJMAR, S.A. Polígono Industrial Lerún, s/n 20870 ELGOIBAR (Gipuzkoa) - SPAIN

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

Electronic lockers: OTS Pulse, OTS Advance and OTS Basic Cerraduras electrónicas: OTS Pulse, OTS Advance y OTS Basic

with registration number **S-P-11401** in the International EPD[®] System (www.environdec.com). con número de registro **S-P-11401** 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 1.2.5.
- c-PCR-020 Building hardware (EN 17610:2022) version 2022-11-04.
- UN CPC: N.A.

Issued date / Fecha de emisión: Update date / Fecha de actualización: Valid until / Válido hasta: Serial Nº / Nº Serie: 14/12/2023 14/12/2023 11/12/2028 EPD0950100-E

Carlos Nazabal Alsua Manager

tecna



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