

Environmental Product Declaration



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

POCKET SLIDING DOOR SYSTEMS

From **ALFALUM SISTEMAS S.A.**



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



General information

Programme information

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

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 1.2.4 c-PCR-007 windows and doors (EN 17213:2020), version 2020-04-09 EN 17213 Windows and doors - Environmental Product Declarations - Product category rules for windows and pedestrian doorsets
PCR review was conducted by: PCR review was conducted by: The Technical Committee of the International EPD®System. See www.environdec.com/TC 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 .
Independent third-party verification of the declaration and data, according to ISO 14025:2006: ☒ External ☐ Internal Covering ☐ EPD process certification ☒ 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: ☒ 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, 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: ALFALUM SISTEMAS S.A.

Description of the organisation:

Established in 2010, we are the first Spanish brand dedicated exclusively to the pocket sliding door systems for sliding doors, accessories and hinges.

With a surface area of 2,500 m2, our facilities are located in the Picassent, just 15 km from the city of Valencia.

We have a wide variety of sizes to provide a solution for each customer, adapting to the limit of their needs. We are specialists in non-conventional sizes, where the width and height of the door are different from the standard measurements.

At ALFALUM we are committed to a project with a clear objective: to provide a comprehensive service to our customers, with an immediate response capacity and where they do not have to load their warehouses with a large number of products.

All our products are tested by the AIDIMME laboratory (Technological Institute of Metalworking, Furniture, Wood, Packaging and Related Industries) to comply with all types of certifications required for works, whether public or private.

The passion that drives us is customer service and the solution of impossible projects.

Name and location of production site(s):

ALFALUM SISTEMAS S.A.

Travesía Calle 5 Nave 16

46220 Picassent VALENCIA

Contact:

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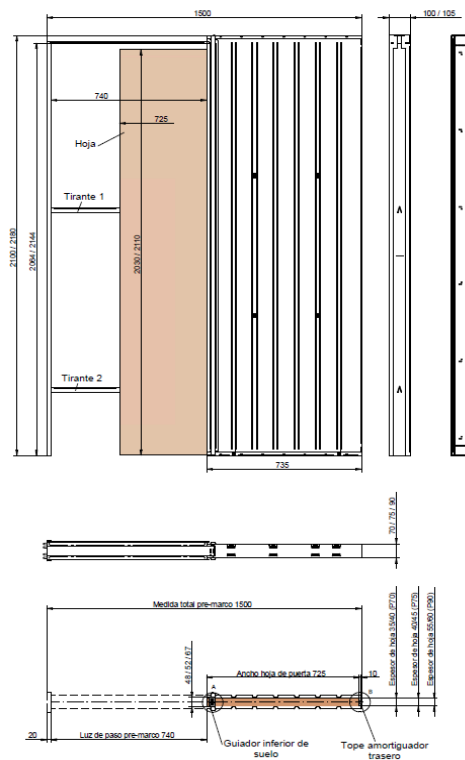
More information: www.alfalum.es

Product information

Product name: The analysed products are the following pocket sliding door systems:

- ALFA70 700 X 2030 X 100 P70
- ALFA12 700 X 2030 X 100
- ALFA12 700 X 2030 X 115
- ALFA70 700 X 2110 X 100 P70
- ALFA12 700 X 2110 X 100
- ALFA12 700 X 2110 X 115

Product description: This EPD covers the life-cycle analysis of a steel pocket sliding door systems. The pocket sliding door systems is a mechanism, consisting of a metal frame inside which, sliding, the door is housed, which is completely hidden. This system makes it possible to gain space by concealing doors and housing them inside the walls.



pocket sliding door systems scheme

- Certificate in 200,000 openings (UNE EN 1527:2014)
- Certificate in UNE EN ISO 9227:2017
- Certificate endurance to corrosion: 48 hours of exposure
- Axial traction resistance certificate: strength of 3090 NEWTONS

UN CPC code: Doors, windows and their frames and thresholds for doors, of iron, steel or aluminium.

LCA information

Declared unit: The declared unit is the baseline reference for which all information is collected. In this study, the declared unit is “**1 m² of pocket sliding door systems**”. In accordance with EN 17213, the indicators declared in this EPD have been calculated on the basis of the following measures:

- 0.7 m X 2.03 m
- 0.7 m X 2.11 m

To obtain the environmental impacts and other parameters referring to 1 m² of product, these indicators were divided by the area of each pocket sliding door systems (1.421 m² or 1.477 m² in each case). Given that the difference in impacts is less than 10% between both measures, the results of measure 0.7 m X 2.03 m are declared as being the most representative product, because of production amount.

Reference service life: Not relevant for this EPD.

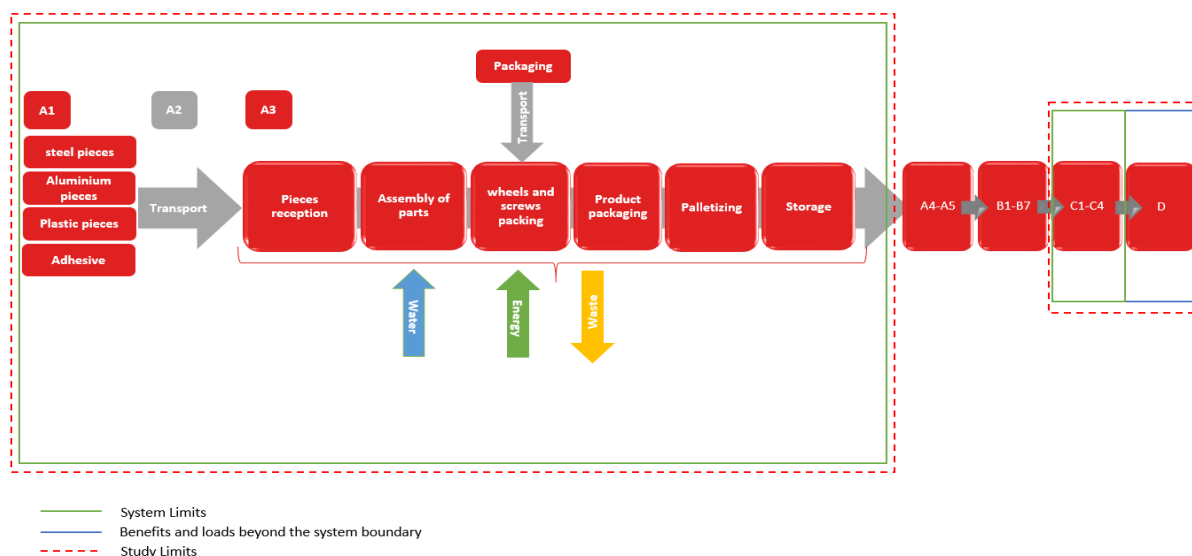
Geographical scope: The geographical scope of this EPD is global.

Time representativeness: The data collection from factory (primary data) and electricity mix are from 2021/01/01 to 2021/12/31. 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 2021/01/01 to 2021/12/31. 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.

Description of system boundaries: According to the standard UNE-EN 15804_2012+A2_2020 (MARCH 2020) and PCR 2019:14 CONSTRUCTION PRODUCTS (version 1.2.4) the system boundary is cradle to gate with modules C1–C4 and module D (A1–A3 + C + D). The life cycle stages A4–A5, B1–B7 were excluded from the LCA study.

System diagram:



Manufacturing process:

The manufacturing process of the pocket sliding door systems is divided into the following stages:

- ✓ **Components storage:** The different components are transported to the ALFALUM factory where they are stored. The components come prepared ready to be assembled.
- ✓ **Assembly:** The pieces are assembled with electrical machinery and manually.
- ✓ **Wheels and screw packaging:** A kit will be prepared for on-site assembly that contains a bag with the wheels and the necessary screws for fixing it to the wall.
- ✓ **Packing, palletizing and storage:** The pocket sliding door systems is carefully packed so that during transport they are not deformed. The kit will be incorporated. They are palletized in units of eleven pocket sliding door systems.

Author of the Life Cycle Assessment:

IK ingenieria

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Data quality

The environmental impact of the pocket sliding door systems has been calculated. It is based on the international standards established for the development of environmental product declarations, such as ISO 14025 for the preparation of the environmental product declaration, ISO 14040 and ISO 14044 for the preparation of the life cycle analysis, UNE-EN 15804:2012+A2:2020 (MARCH 2020) and the Product Category Rules PCR - "2019:14 Construction products" (Version 1.2.4), c-PCR-007 windows and doors (EN 17213:2020), version 2020-04-09 and EN 17213 Windows and doors - Environmental Product Declarations - Product category rules for windows and pedestrian doorsets.

Data has been collected from 2021/01/01 to 2021/01/31 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 Picassent. Generic background datasets were used for the downstream processes. SimaPro v9.3.0.3. software was used to prepare the life cycle analysis together with the Ecoinvent 3.8 database. Characterization factors from EN15804: 2012 + A2:2019.

The geographical coverage is global. Technological coverage is typical or average.

Assumptions

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

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

Cut-off rules

The standard ISO 14025 and the PCR -"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 stage. This cut-off rule does not apply for hazardous materials and substances. No such cut-off criteria have been taken into account in this study.

Allocation

The assembly process is the same regardless of the dimensions of pocket sliding door system, therefore, when necessary, such as waste generation and energy consumption, an allocation based in produced units has been used.

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

Specific electricity mix with guarantee of origin (GoO), low voltage (direct emissions and losses in grid is considered for the manufacturing process.

Electricity mix	Amount	Units
Specific electricity mix with GoO	0,05	Kg CO ₂ -eqv/kWh

LCA Scenarios and additional technical information

Dismantling/demolition (module C1):

The disassembly of the pocket sliding door system can be carried out manually and with electric tools. For this scenario, the use of electric machinery has been considered (700W screw driver and 700w hammer drill working alternately 15 min).

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):

The EoL scenarios have been setup according to default values specified in EN 17213: 95% of metals are recycled and 5% are landfilled and 95% of plastics are incinerated and 5% are sent to landfill.

Recyclability potentials (module D):

Module D contains credits from the recycling of the pocket sliding door systems in module C3. The metals are collected and recycled for use in substitution of virgin metals.

LCA Scenarios for end of life

Processes	Per Declared unit	
Collection process specified by type	1,90E+01	Kg collected separately
	0,00E+00	Kg collected with mixed construction waste
	0,00E+00	Kg for reuse
Recovery system specified by type	1,75E+01	Kg for recycling
	0,00E+00	Kg for energy recovery
	1,46E+00	Kg for final disposal
Assumptions for scenario transportation	Lorry 16-32 metric ton, EURO5 Consumption: 0,03kg/km Distance:50 km	

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

	Product stage			Construction process stage		Use stage							End of life stage				Resource recovery stage
	Raw material supply	Transport	Manufacturing	Transport	Construction installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	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	ND	ND	ND	ND	ND	ND	ND	ND	ND	X	X	X	X	X
Geography	EU	EU	EU	ND	ND	ND	ND	ND	ND	ND	ND	ND	GLO	GLO	GLO	GLO	GLO
Specific data	>90%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – products	2,25%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – sites	0%			-	-	-	-	-	-	-	-	-	-	-	-	-	-

ND: Not declared

Content information

Product components	700 X 2030		
	Weight, kg	Post-consumer material, weight-%	Renewable material, weight-%
Steel	1,78E+01	0,0%	0,0%
Aluminium	6,90E-01	0,0%	0,0%
Plastic	1,07E-01	0,0%	0,0%
TOTAL	1,86E+01	0,0%	0,0%
Packaging materials	Weight, kg	Weight-% (versus the product)	
Carton	0,23	1,25%	
Pallet	0,29	1,55%	
Plastic film and other plastics	0,30	1,60%	
TOTAL	0,82	4,40%	

Packaging: The product is transported to the construction site packed with carton and plastic film, in pallets.

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

Environmental Information

Potential environmental impact – mandatory indicators according to EN 15804:

Results per declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
GWP-fossil	kg CO ₂ eq.	9,28E+01	2,93E-02	1,54E-01	0,00E+00	2,81E-01	-1,08E+01
GWP-biogenic	kg CO ₂ eq.	4,89E-01	2,83E-04	1,39E-04	0,00E+00	4,94E-05	-7,83E-02
GWP-luluc	kg CO ₂ eq.	1,56E-01	2,18E-04	6,06E-05	0,00E+00	8,26E-06	-2,45E-01
GWP-total	kg CO ₂ eq.	9,34E+01	2,98E-02	1,55E-01	0,00E+00	2,81E-01	-1,12E+01
ODP	kg CFC 11 eq.	5,79E-06	3,40E-09	3,57E-08	0,00E+00	2,36E-09	-1,27E-06
AP	mol H ⁺ eq.	1,78E+00	1,09E-04	6,26E-04	0,00E+00	9,74E-05	-8,69E-02
EP-freshwater	kg PO ₄ ³⁻ eq.	1,26E-02	1,46E-06	3,32E-06	0,00E+00	5,30E-07	-1,65E-03
EP-freshwater	kg P eq.	4,11E-03	4,74E-07	1,08E-06	0,00E+00	1,73E-07	-5,38E-04
EP-marine	kg N eq.	1,51E-01	2,00E-05	1,87E-04	0,00E+00	3,56E-05	-1,35E-02
EP-terrestrial	mol N eq.	6,59E+00	2,29E-04	2,06E-03	0,00E+00	3,98E-04	-1,52E-01
POCP	kg NMVOC eq.	4,13E-01	6,31E-05	6,32E-04	0,00E+00	1,12E-04	-4,84E-02
ADP-minerals&metals*	kg Sb eq.	4,56E-03	4,47E-07	5,37E-07	0,00E+00	2,31E-08	3,88E-05
ADP-fossil*	MJ	1,10E+03	8,49E-01	2,33E+00	0,00E+00	1,82E-01	-1,69E+02
WDP	m ³ deprive	3,24E+01	2,12E-02	6,99E-03	0,00E+00	7,25E-03	-7,22E-01
Acronyms	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						

* 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	A1-A3	C1	C2	C3	C4	D
GWP-GHG ¹	9,25E+01	2,96E-02	1,54E-01	0,00E+00	2,81E-01	-1,09E+01

Use of resources

Results per declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
PERE	MJ	1,07E+02	2,49E-01	3,29E-02	0,00E+00	4,61E-03	-6,31E+01
PERM	MJ	4,34E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	MJ	1,11E+02	2,49E-01	3,29E-02	0,00E+00	4,61E-03	-6,31E+01
PENRE	MJ	1,06E+03	8,49E-01	2,33E+00	0,00E+00	1,82E-01	-1,69E+02
PENRM	MJ	3,35E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PENRT	MJ	1,10E+03	8,49E-01	2,33E+00	0,00E+00	1,82E-01	-1,69E+02
SM	kg	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
NRSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	m ³	1,02E+00	3,24E-04	2,60E-04	0,00E+00	2,25E-04	-4,47E-01

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.

Waste production

Results per declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
Hazardous waste disposed	kg	2,74E-02	1,00E-06	6,10E-06	0,00E+00	3,09E-07	9,59E-03
Non-hazardous waste disposed	kg	2,65E+01	2,53E-03	1,20E-01	0,00E+00	9,35E-01	-5,40E+00
Radioactive waste disposed	kg	2,98E-03	6,40E-06	1,58E-05	0,00E+00	1,03E-06	-1,08E-03

Output flows

Results per declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
Components for re-use	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Material for recycling	kg	2,45E-01	0,00E+00	0,00E+00	1,75E+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

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	0,00E+00

Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO₂.

Additional information

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

<https://www.alfalum.es/>

Information related to Sector EPD

This is an individual EPD®

Differences versus previous versions

This is the first version of the 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 1.2.4
- EN 15804:2012+A2:2019 Sustainability of construction works-Environmental Product Declarations-Core rules for the product category of construction products
- c-PCR-007 windows and doors (EN 17213:2020), version 2020-04-09
- EN 17213 Windows and doors - Environmental Product Declarations - Product category rules for windows and pedestrian doorsets

VERIFICATION STATEMENT CERTIFICATE CERTIFICADO DE DECLARACIÓN DE VERIFICACIÓN

Certificate No. / Certificado nº: EPD07601

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:

ALFALUM SISTEMAS, S.A.
Travesía Calle 5 Nave
46220 PICASSENT (Valencia) - SPAIN

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

Pocket sliding door systems
Armazones para puertas correderas

with registration number **S-P-07196** in the International EPD® System (www.environdec.com).
con número de registro S-P-07196 en el Sistema Internacional EPD® (www.environdec.com).

it's in conformity with:
es conforme con:

- **ISO 14025:2010 Environmental labels and declarations. Type III environmental declarations.**
- **General Programme Instructions for the International EPD® System v.4.0**
- **PCR 2019:14 Construction products (EN 15804:A2) v.1.2.4**
- **c-PCR-007 windows and doors (EN 17213:2020), version 2020-04-09**
- **CPC 4212 Doors, windows and their frames and thresholds for doors, of iron, steel or aluminium**



Carlos Nazabal Alsua
Manager

Issued date / Fecha de emisión:	26/10/2022
Update date / Fecha de actualización:	26/10/2022
Valid until / Válido hasta:	25/10/2027
Serial Nº / Nº Serie:	EPD0760100-E

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

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