



DAPcons®.NTe.127

DECLARACIÓN AMBIENTAL DE PRODUCTO
ENVIRONMENTAL PRODUCT DECLARATION

According to the standards:
ISO 14025 y EN 15804 + A2:2020



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GENERAL INFORMATION

Product

CORTIZO PVC-U window systems with roller shutter box. With double/triple glazing.

Company



Product description

In this EPD, different windows with shutter box made from extruded PVC profiles manufactured by CORTIZO are shown. The declared products are specific to the different series designed by the company among which are hinged and sliding windows.

Reference RCP

UNE-EN 17213, Product category rules for windows and pedestrian doors

Production plant

The production of the PVC profiles is carried out in the CORTIZO installations in Padrón (La Coruña). The assembly of the windows is carried out in workshops and carpentries.

Validity

From: 01/12/2022 Until: 01/12/2027

The validity of DAPcons®.NTe.127 is subject to the conditions of the regulation DAPcons®. The current edition of this DAPcons® is the one that appears in the registry maintained by Cateb; for informational purposes, it is included on the Program website www.csostenible.net

EXECUTIVE SUMMARY

CORTIZO PVC-U window systems with roller shutter box. With double/triple glazing.

**DAPconstruction® PROGRAM**

Environmental Product Declarations in the Construction sector
www.csostenible.net

**Program Manager**

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**Declaration Holder**

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**Statement made by:**

Idnovam
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Declared product

CORTIZO PVC-U window systems with roller shutter box. With double/triple glazing.

Geographic representation

All the manufacturing processes of the PVC profiles are carried out in the CORTIZO installations. The rest of the elements of the windows, such as the steel reinforcement, the glass and other components are manufactured in Spanish and European production centres. The assembly of the windows is carried out in workshops and carpentries all over Spain.

Variability between different products

In this EPD the specific results for each of the window system configurations are declared.

Declaration number

DAPcons®.NTe.127

Registration date

03/10/2022

Validity

This verified declaration authorizes its holder to carry the logo of the operator of the ecolabelling program DAPconstruction®. The declaration is applicable exclusively to the mentioned product and for five years from the date of registration. The information contained in this statement was provided under the responsibility of:

ALUMINIOS CORTIZO, S.A.U.

Program Administrator Signature

Celestí Ventura Cisternas. President of Cateb

Program Verifier Signature

Eva Martínez Herrero. Verifier accredited by the administrator of the DAPcons® Program

ENVIRONMENTAL PRODUCT DECLARATION

1. DESCRIPTION OF THE PRODUCT AND ITS USE

The windows consist of a frame and the respective sashes housing the insulating glass units (IGUs) assembled from PVC profiles and internal steel reinforcements.

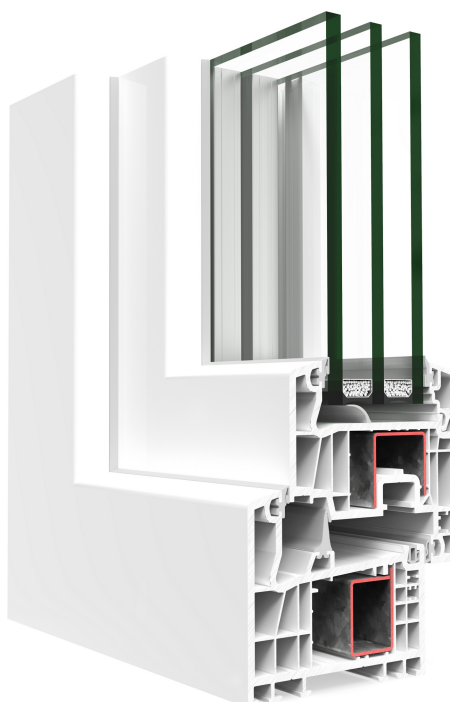
The profiles are assembled by welding. The fittings include the systems that allow the leaf to be opened (handles, hinges, etc.). Flexible PVC or TPE seals are used to guarantee the air and water tightness of the window. In the case of sliding windows, polypropylene brushes are used.

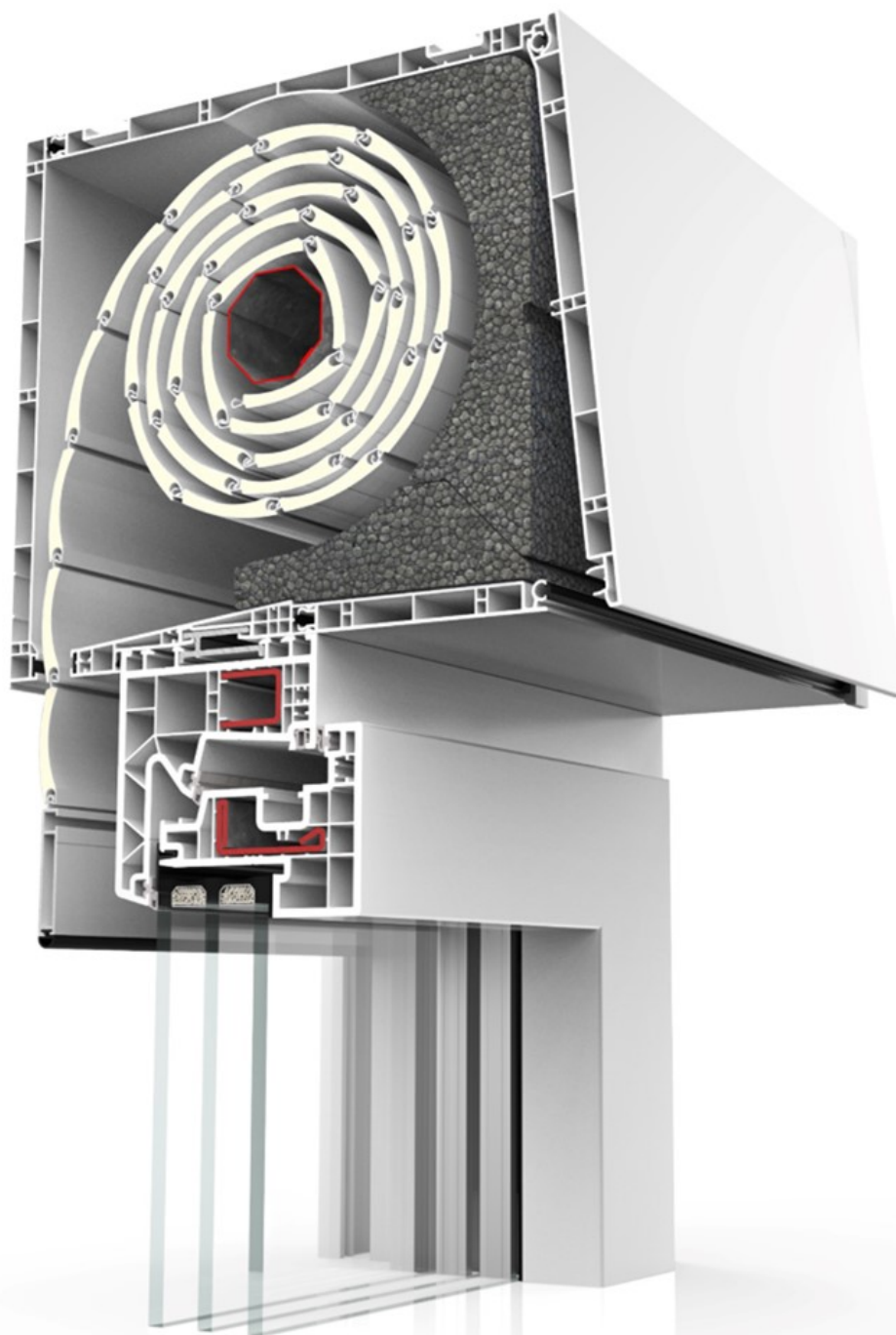
The declared windows include several series made of PVC profiles with different glazing.

The results of this EPD are representative for the following products with the Cortizo Isolation shutter box: hinged windows, series A70, A84, Alcover; and sliding windows, series C70.

The primary use of these products will be exterior windows intended for use in residential and commercial locations, although they may also have other secondary uses such as interior windows.

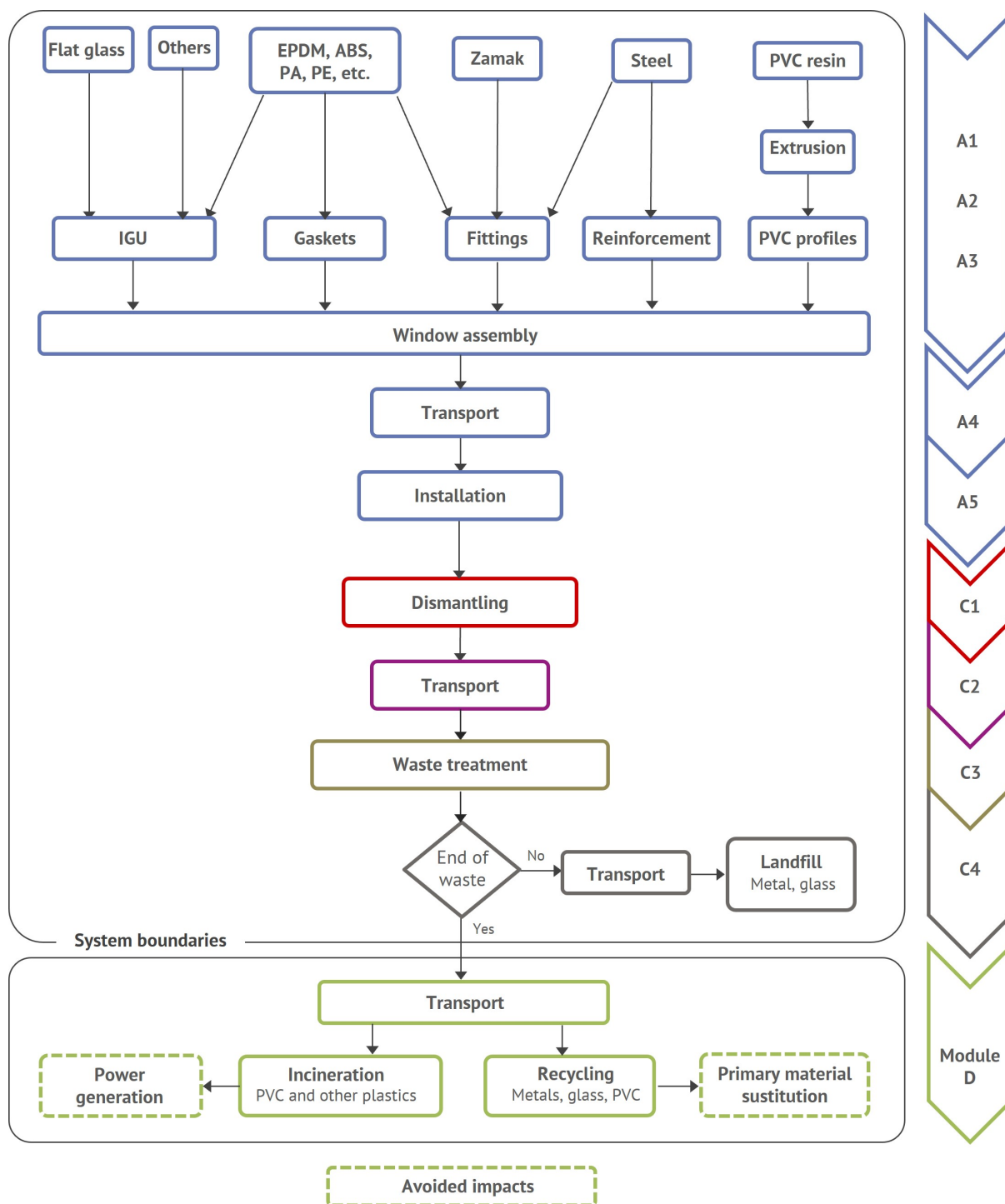
The technical characteristics of the products as well as their composition are shown below. The latter refers to a product with standard dimensions, i.e., a window of 1.23 m x 1.48 m.





		IGU	Thermal insulation frame-	Thermal insulation Uw	Air tightness	Water tightness	Acoustic insulation (Rw)	Wind load resistance
			UNE-EN 10077-2	UNE-EN 10077-1	UNE-EN 12207	UNE-EN 12208	UNE-EN ISO 12354	UNE-EN 12210
A70	IGU I	4BE (16Ar) 4	1,3	1,4	4	E900	32 (-1; -4)	C5
	IGU II	4BE (14Ar) 6 (14Ar) 4BE	1,3	1,1	4	E900	31 (-1; -5)	C5
A70 - 3J	IGU I	4BE (16Ar) 4	1,3	1,4	4	E1050	32 (-1; -4)	C5
	IGU II	4BE (14Ar) 6 (14Ar) 4BE	1,3	1,1	4	E1050	31 (-1; -5)	C5
Alcover	IGU I	4BE (16Ar) 4	1,3	1,4	4	E900	32 (-1; -4)	C5
	IGU II	4BE (14Ar) 6 (14Ar) 4BE	1,3	1,1	4	E900	31 (-1; -5)	C5
A84	IGU I	4BE (16Ar) 4	1,2	1,4	4	E1500	32 (-1; -4)	C5
	IGU II	4BE (18Ar) 4 (18Ar) 4	1,2	1,1	4	E1500	37 (-2; -6)	C5
A84 PH 1.0	IGU I	4BE (16Ar) 4	1,0	1,3	4	E1500	32 (-1; -4)	C5
	IGU II	4BE (18Ar) 4 (18Ar) 4	1,0	1,1	4	E1500	37 (-2; -6)	C5
A84 PH HI	IGU I	4BE (16Ar) 4	0,8	1,1	4	E1500	32 (-1; -4)	C5
	IGU II	4BE (18Ar) 4 (18Ar) 4	0,8	1,0	4	E1500	37 (-2; -6)	C5
A84 HO	IGU I	4BE (16Ar) 4	1,1	1,4	4	E2250	32 (-1; -5)	C5
	IGU II	4BE (16Ar) 4 (18Ar) 4BE	1,1	0,9	4	E2250	36 (-2; -6)	C5
A84 HO PH	IGU I	4BE (16Ar) 4	1,1	1,2	4	E2250	32 (-1; -5)	C5
	IGU II	4BE (16Ar) 4 (18Ar) 4BE	1,1	0,9	4	E2250	36 (-2; -6)	C5
C70	IGU I	4BE (16Ar) 4	1,9	1,7	3	7A	32 (-1; -5)	C4

Material (kg)	Component	A70	A70 3J	Alcover	A84	A84 PH1.0	A84 PH HI	A84 HO	A84 HO PH	C70
PVC	Profiles	28,28	27,31	27,60	30,93	30,93	31,41	30,28	30,28	25,85
Steel		13,43	13,36	13,29	14,01	17,17	3,49	13,03	13,03	17,65
Aluminium		0,34	0,34	4,03	0,34	0,34	0,34	0,34	0,34	0,59
ABS		0	0	0	0	0	0	0,22	0,22	0
Glass	IGU I	9,41	9,79	9,41	9,41	9,41	9,41	10,58	10,58	9,02
Glass (low-e)		9,41	9,79	9,41	9,41	9,41	9,41	10,58	10,58	9,02
Polysulfide		0,50	0,51	0,50	0,50	0,50	0,50	0,53	0,53	0,49
Aluminium		0,39	0,40	0,39	0,39	0,39	0,39	0,41	0,41	0,38
Argon		0,02	0,03	0,02	0,02	0,02	0,02	0,03	0,03	0,02
Zeolite		0,85	0,86	0,85	0,85	0,85	0,85	0,90	0,90	0,83
PB		0,01	0,01	0,01	0,01	0,01	0,01	0,01	0,01	0,01
Glass	IGU II	14,11	14,68	14,11	18,81	18,81	18,81	10,58	10,58	9,02
Glass (low-e)		18,81	19,58	18,81	9,41	9,41	9,41	21,17	21,17	9,02
Polysulfide		0,88	0,89	0,88	1,13	1,13	1,13	1,13	1,13	0,49
Aluminium		0,59	0,60	0,59	0,72	0,72	0,72	0,72	0,72	0,38
Argon		0,04	0,04	0,04	0,06	0,06	0,06	0,06	0,06	0,02
Zeolite		1,50	1,51	1,50	1,92	1,92	1,92	1,91	1,91	0,83
PB		0,01	0,01	0,01	0,01	0,01	0,01	0,01	0,01	0,01
PVC	Gasket & fittings	0,87	0,88	0,92	0,89	0,89	0,49	0,87	0,87	0,50
PP		0,23	0,22	0,23	0,29	0,29	0,29	0,22	0,23	1,31
TPE		0,01	0,56	0,01	0,51	0,51	0,51	0,01	0,01	0,0151
ABS		0	0	0	0	0	0	0	0	0,02
Steel		0,14	0,14	0,14	0,14	0,14	0,14	0,14	0,14	0,50
Stainless		0,02	0,02	0,02	0,02	0,02	0,02	0,02	0,02	0,07
Acetal		0,01	0,01	0,01	0,01	0,01	0,01	0,01	0,01	0,01
Aluminium		0,24	0,24	0,24	0,24	0,24	0,24	0,24	0,24	0,12
ASA		0,003	0,002	0,003	0,01	0,01	0,01	0,003	0,003	0,01
PE foam		0,43	0,43	0,43	0,43	0,43	0,43	2,42	2,42	0,43
PU foam		0,42	0,42	0,42	0,42	0,46	0,94	0,42	0,54	0,42
PA		0,01	0,01	0,01	0,06	0,06	0,06	0,07	0,07	0,02
PE		0,02	0	0,02	0	0	0	0	0	0
Zamak		0,49	0,49	0,49	0,49	0,49	0,49	0,49	0,49	0,43
Total	IGU I	65,56	65,81	68,47	69,40	72,60	59,48	71,83	71,97	67,69
	IGU II	80,91	81,74	83,81	80,86	84,06	70,94	84,37	84,50	67,69



2. DESCRIPTION OF THE STAGES OF THE LIFE CYCLE

2.1. Manufacturing (A1, A2 y A3)

Raw Materials (A1 y A2)

The manufacture of PVC profiles begins with the processing of the raw materials for the production of the PVC used in extrusion. These include PVC resin, which is the main component, along with others such as titanium dioxide, calcium carbonate, impact modifier, stabiliser and additives.

In turn, the windows consist of other components such as the insulating glass unit (IGU), reinforcements and hardware with different materials including glass, aluminium, zamak.

CORTIZO selects and receives the raw materials from national and international suppliers. With the exception of

the IGU, the rest of the components such as the reinforcements and the iron fittings are received in CORTIZO's installations.

Manufacturing (A3)

The profiles are produced by extruding the PVC mixture which is forced through a die by plastic deformation in order to produce profiles with different cross-sections. The profiles then pass through a series of counterforms while cooling in a water bath. The profiles are then cut by the extruder itself. All the material is coded, indicating the classification of the profile, the date of manufacture and the extruder on which it was made.

At this point, the profiles can take two routes: to the end customer or to the foiling plant. The first case is when the customer requests raw profiles. In the second case, the profiles are given a coloured finish.

During the foiling process, a plastic film is added to the profiles in order to give them the desired finish. The first step consists of adapting the profiles to the optimum conditions of 20-25°C and humidity between 50-60%. Subsequently, the primer is applied to open the pores of the material and allow the glue to enter them. Once the profile has been glued, the foil is placed and pressed with a succession of rollers so that it adheres correctly. Finally, the profile must mature for 72 hours in the same conditions in which the process was carried out.

The profiles, fittings and joints are transported from the CORTIZO installations first to the distribution centres and then on request to the workshops and carpentries where the windows are assembled. In these installations the profiles are cut and mechanised and assembled with the rest of the components.

The IGU is assembled in the glassworks and sent directly to the building site where they are assembled once the window has been installed.

The materials and weight of the fittings and joints have been obtained from the breakdown of the CORTIZO door systems. Not only the materials with which they are made have been taken into account but also the manufacturing process such as extrusion or injection in the case of plastic components or forging or machining in the case of metal components. In the case of IGU, the weight of some components such as glass, aluminium, zeolite, argon and sealants have been modelled from geometric calculations based on specifications together with density values obtained from material databases. Environmental aspects such as water and electricity consumed during IGU manufacturing have been obtained from the Ecoinvent database.

2.2. Building (A4 y A5)

Transport of the product to the work (A4)

The distance to the building site has been chosen as 300 km. This distance is from the workshop where the window is assembled to the construction site. This transport is carried out in a 16-32 rigid truck with a load factor of 32%.

Tabla 1. Scenarios applied for the transport of the product to the place of installation

Destinations	Type of transport	Percentage	Average km
Europa	16-32 tonne rigid truck, EURO 6	100	300
		Total 100%	

Product installation process and construction (A5)

The on-site assembly of PVC windows consists of plumbing, levelling and wedging the window and fixing it with clamps consisting of shaped plates to facilitate its adherence to the wall. These clamps can be fixed to the frame

by means of screws. The frame can also be fixed by means of screws designed to be introduced into the solid wall. CORTIZO has provided data about the use of metal clamps and screws used in the fixing of the windows.

2.3. Product use (B1-B7)

Use (B1)

Undeclared

Maintenance (B2)

Undeclared

Repair (B3)

Undeclared

Substitution (B4)

Undeclared

Rehabilitation (B5)

Undeclared

Operational energy use (B6)

Undeclared

Operational water use (B7)

Undeclared

2.4. End of life (C1-C4)

Deconstruction and demolition (C1)

It has been assumed that the product will be dismantled from the building manually without mechanical handling.

Transportation (C2)

A distance of 200 km has been assumed for transport to the waste treatment centre in a 16-32t, EURO 6 lorry with a load factor of 32%.

Waste management for reuse, recovery and recycling (C3)

It has been assumed that the same amount of electricity is consumed during the dismantling of the windows for the recovery of the different fractions as during their assembly.

Ultimate elimination (C4)

The end-of-life scenarios and the final destination of the different material fractions have been designed based on the default values of UNE EN 17213:

Metals: landfill, 25%.

Plastics: landfill, 25% landfill, 25% landfill, 25% landfill, 25% landfill, 25% landfill

Glass: landfill, 70%.

2.5. Potential environmental benefits and burdens beyond the system boundary (D)

In Module D, the environmental burdens and benefits of recycling of material streams that are recovered at the end of life of the products are declared. The environmental aspects have been assessed up to the point of functional equivalence, i.e. obtaining raw materials similar to the starting materials.

In the case of reinforcing steel, a mass balance has been carried out in order to obtain the net material output of the system at the end of the useful life of the products, taking into account the use of recycled material at the input of the system.

Recovery rates, final destination and recycling efficiencies for the different material fractions have been designed based on the default values of UNE EN 17213:

Metals: recycling, 75%.

Plastics: recycling, 33.75% - energy recovery, 41.25% (efficiency in energy recovery of plastics, 60%)

Glass: recycling, 30% - energy recovery, 41.25% (energy recovery efficiency of plastics, 60%)

3. LIFE CYCLE ANALYSIS

The life cycle analysis on which this EPD is based has been carried out in accordance with ISO 14040 and ISO 14044. Similarly, UN EN 15804:2012+A2:2020 as well as UNE EN 17213:2020 for doors and windows have been taken into account. This EPD is of the "cradle to door with options" type, stating the stages of product manufacture, transport to site, product installation and end of life.

Specific data from the CORTIZO plants for the year 2021 have been used for the manufacture of PVC profiles. The data for IGU, fittings, seals and other environmental aspects during the assembly of the windows are based on information also updated to 2021.

3.1. Functional Unit

The declared unit is 1 m² of enclosure for façade openings (windows) with the technical characteristics shown in point 1.

3.2. System limits

Table 2. Declared modules

Product stage			Construction Process Stage		Use stage							End of life stage				Benefits and loads beyond the system boundaries
Raw materials supply	Transport	Manufacturing	Transport	Construction - Installation process	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction	Transport	Waste processing	Disposal	Reuse, recovery, recycling potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
X	X	X	X	X	MND	MND	MND	MND	MND	MND	MND	X	X	X	X	X

X = Declared module **MND** = Undeclared module

3.3. Life cycle analysis data (ACV)

Hinged window A70, double glazing 4-16Ar-4BE

Table 3. Parameters of environmental impact

Parameter	Unit	Life cycle stage														Module D	
		Product stage	Construction Process Stage		Use stage								End of life stage				
			A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3		C4
Climate change - total (GWP-total)	kg CO2 eq	8,88E+01	1,79E+00	6,70E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,17E+00	2,30E-01	7,85E-01	-2,21E+01	
Climate change - fossil (GWP-fossil)	kg CO2 eq	8,81E+01	1,78E+00	6,66E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,17E+00	2,28E-01	7,83E-01	-2,17E+01	
Climate change - biogenic (GWP-biogenic)	kg CO2 eq	5,77E-01	1,62E-03	1,86E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,07E-03	1,48E-03	1,25E-03	-2,24E-01	
Climate change - land use and changes in land use (GWP-luluc)	kg CO2 eq	1,37E-01	7,05E-04	1,61E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,64E-04	1,45E-03	3,73E-04	-1,59E-01	
Ozone layer depletion (ODP)	kg CFC 11 eq	2,25E-05	4,13E-07	3,42E-08	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,72E-07	2,14E-08	7,68E-08	-6,51E-06	
Acidification (AP)	mol H+ eq	5,42E-01	5,07E-03	2,90E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,33E-03	1,86E-03	1,85E-03	-2,13E-01	
Eutrophication of fresh water (EP-freshwater)	kg P eq	2,09E-02	1,17E-04	3,08E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	7,68E-05	8,84E-05	4,50E-05	-1,05E-02	
Eutrophication of sea water (EP-marine)	kg N eq.	9,07E-02	1,03E-03	6,86E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	6,77E-04	3,53E-04	9,45E-03	-2,22E-02	
Terrestrial eutrophication (EP-terrestrial)	mol N eq.	9,27E-01	1,12E-02	6,53E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	7,38E-03	3,69E-03	5,76E-03	-3,58E-01	
Photochemical ozone formation (POCP)	kg NMVOC eq	3,20E-01	4,31E-03	2,88E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,84E-03	1,01E-03	1,86E-03	-1,08E-01	
Depletion of abiotic resources - minerals and metals (ADP-minerals&metals)	kg Sb eq	1,50E-03	6,32E-06	7,58E-06	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,16E-06	7,75E-07	1,02E-06	-5,38E-04	
Depletion of abiotic resources - fossil fuels (ADP-fossil)	MJ, valor calorífico neto	1,56E+03	2,70E+01	7,02E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,78E+01	5,14E+00	5,87E+00	-5,84E+02	
Water consumption (WDP)	m3 world eq. private	4,69E+01	1,24E-01	3,75E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	8,12E-02	9,24E-02	1,46E-01	-1,60E+01	
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. Can be obtained from IPCC characterization factors.																	
Global Warming Potential (GHG)	kg CO2 eq	8,56E+01	1,77E+00	6,42E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,16E+00	2,25E-01	6,88E-01	-2,13E+01	

A1 Supply of raw materials.A2 Transportation. A3 Manufacturing. A4 Transportation. A5 Installation and construction processes. B1 Use. B2 Maintenance. B3 Repair. B4 Substitution. B5 Rehabilitation. B6 Operational energy use. B7 Operational water use. C1 Deconstruction and demolition. C2 Transportation. C3 Waste management for reuse, recovery and recycling C4 Fine removal. D Environmental benefits and burdens beyond the system boundary. MND Módulo No Declarado.

Hinged window A70-triple seal, double glazing 4-16Ar-4BE

Table 3. Parameters of environmental impact

Parameter	Unit	Life cycle stage														Module D
		Product stage	Construction Process Stage		Use stage							End of life stage				
		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	
Climate change - total (GWP-total)	kg CO2 eq	8,91E+01	1,79E+00	6,70E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,18E+00	2,33E-01	7,89E-01	-2,21E+01
Climate change - fossil (GWP-fossil)	kg CO2 eq	8,84E+01	1,79E+00	6,66E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,18E+00	2,30E-01	7,87E-01	-2,17E+01
Climate change - biogenic (GWP-biogenic)	kg CO2 eq	5,64E-01	1,63E-03	1,86E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,07E-03	1,51E-03	1,25E-03	-2,23E-01
Climate change - land use and changes in land use (GWP-luluc)	kg CO2 eq	1,36E-01	7,08E-04	1,61E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,66E-04	1,45E-03	3,82E-04	-1,59E-01
Ozone layer depletion (ODP)	kg CFC 11 eq	2,19E-05	4,15E-07	3,42E-08	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,73E-07	2,18E-08	7,94E-08	-6,45E-06
Acidification (AP)	mol H+ eq	5,42E-01	5,08E-03	2,90E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,34E-03	1,88E-03	1,89E-03	-2,13E-01
Eutrophication of fresh water (EP-freshwater)	kg P eq	2,06E-02	1,17E-04	3,08E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	7,71E-05	8,93E-05	4,56E-05	-1,05E-02
Eutrophication of sea water (EP-marine)	kg N eq.	9,10E-02	1,03E-03	6,86E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	6,79E-04	3,58E-04	9,33E-03	-2,23E-02
Terrestrial eutrophication (EP-terrestrial)	mol N eq.	9,32E-01	1,13E-02	6,53E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	7,40E-03	3,74E-03	5,86E-03	-3,60E-01
Photochemical ozone formation (POCP)	kg NMVOC eq	3,20E-01	4,33E-03	2,88E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,85E-03	1,03E-03	1,90E-03	-1,08E-01
Depletion of abiotic resources - minerals and metals (ADP-minerals&metals)	kg Sb eq	1,48E-03	6,34E-06	7,58E-06	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,17E-06	7,85E-07	1,05E-06	-5,36E-04
Depletion of abiotic resources - fossil fuels (ADP-fossil)	MJ, valor calorífico neto	1,56E+03	2,71E+01	7,02E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,78E+01	5,18E+00	6,04E+00	-5,83E+02
Water consumption (WDP)	m3 world eq. private	4,68E+01	1,24E-01	3,75E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	8,15E-02	9,37E-02	1,47E-01	-1,59E+01
The Indicador includes all greenhouse gases included in GWP-total but excludes biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. This Indicador is thus equal to the GWP Indicador originally defined in EN 15804:2012+A1:2013. Can be obtained from IPCC characterization factors.																
Global Warming Potential (GHG)	kg CO2 eq	8,59E+01	1,77E+00	6,42E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,17E+00	2,27E-01	6,93E-01	-2,14E+01

A1 Supply of raw materials. A2 Transportation. A3 Manufacturing. A4 Transportation. A5 Installation and construction processes. B1 Use. B2 Maintenance. B3 Repair. B4 Substitution. B5 Rehabilitation. B6 Operational energy use. B7 Operational water use. C1 Deconstruction and demolition. C2 Transportation. C3 Waste management for reuse, recovery and recycling. C4 Fine removal. D Environmental benefits and burdens beyond the system boundary. MND Módulo No Declarado.

Hinged window Alcover, double glazed 4-16Ar-4BE

Table 3. Parameters of environmental impact

Parameter	Unit	Life cycle stage														Module D
		Product stage	Construction Process Stage		Use stage							End of life stage				
		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	
Climate change - total (GWP-total)	kg CO2 eq	1,00E+02	1,86E+00	6,70E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,23E+00	2,30E-01	7,98E-01	-2,65E+01
Climate change - fossil (GWP-fossil)	kg CO2 eq	9,93E+01	1,86E+00	6,66E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,22E+00	2,28E-01	7,96E-01	-2,60E+01
Climate change - biogenic (GWP-biogenic)	kg CO2 eq	5,62E-01	1,70E-03	1,86E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,12E-03	1,48E-03	1,43E-03	-2,45E-01
Climate change - land use and changes in land use (GWP-luluc)	kg CO2 eq	1,39E-01	7,36E-04	1,61E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,84E-04	1,45E-03	3,94E-04	-2,81E-01
Ozone layer depletion (ODP)	kg CFC 11 eq	2,26E-05	4,31E-07	3,42E-08	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,84E-07	2,14E-08	7,95E-08	-6,89E-06
Acidification (AP)	mol H+ eq	6,17E-01	5,29E-03	2,90E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,48E-03	1,86E-03	1,98E-03	-2,36E-01
Eutrophication of fresh water (EP-freshwater)	kg P eq	2,14E-02	1,22E-04	3,08E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	8,02E-05	8,84E-05	5,07E-05	-1,28E-02
Eutrophication of sea water (EP-marine)	kg N eq.	1,01E-01	1,07E-03	6,86E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	7,07E-04	3,53E-04	9,29E-03	-2,59E-02
Terrestrial eutrophication (EP-terrestrial)	mol N eq.	1,04E+00	1,17E-02	6,53E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	7,70E-03	3,69E-03	6,09E-03	-3,88E-01
Photochemical ozone formation (POCP)	kg NMVOC eq	3,49E-01	4,50E-03	2,88E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,96E-03	1,01E-03	1,96E-03	-1,20E-01
Depletion of abiotic resources - minerals and metals (ADP-minerals&metals)	kg Sb eq	1,48E-03	6,60E-06	7,58E-06	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,34E-06	7,75E-07	1,07E-06	-3,96E-04
Depletion of abiotic resources - fossil fuels (ADP-fossil)	MJ, valor calorífico neto	1,72E+03	2,82E+01	7,02E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,86E+01	5,14E+00	6,17E+00	-6,48E+02
Water consumption (WDP)	m3 world eq. private	4,64E+01	1,29E-01	3,75E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	8,48E-02	9,24E-02	1,53E-01	-2,47E+01
The Indicador includes all greenhouse gases included in GWP-total but excludes biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. This Indicador is thus equal to the GWP Indicador originally defined in EN 15804:2012+A1:2013. Can be obtained from IPCC characterization factors.																
Global Warming Potential (GHG)	kg CO2 eq	9,68E+01	1,84E+00	6,42E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,21E+00	2,25E-01	7,02E-01	-2,56E+01

A1 Supply of raw materials. **A2** Transportation. **A3** Manufacturing. **A4** Transportation. **A5** Installation and construction processes. **B1** Use. **B2** Maintenance. **B3** Repair. **B4** Substitution. **B5** Rehabilitation. **B6** Operational energy use. **B7** Operational water use. **C1** Deconstruction and demolition. **C2** Transportation. **C3** Waste management for reuse, recovery and recycling. **C4** Fine removal. **D** Environmental benefits and burdens beyond the system boundary. **MND** Módulo No Declarado.

Hinged window A84, double glazed 4-16Ar-4BE

Table 3. Parameters of environmental impact

Parameter	Unit	Life cycle stage														Module D
		Product stage	Construction Process Stage		Use stage							End of life stage				
		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	
Climate change - total (GWP-total)	kg CO2 eq	9,41E+01	1,89E+00	6,70E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,24E+00	2,30E-01	8,53E-01	-2,41E+01
Climate change - fossil (GWP-fossil)	kg CO2 eq	9,33E+01	1,89E+00	6,66E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,24E+00	2,28E-01	8,51E-01	-2,37E+01
Climate change - biogenic (GWP-biogenic)	kg CO2 eq	6,04E-01	1,72E-03	1,86E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,13E-03	1,48E-03	1,32E-03	-2,43E-01
Climate change - land use and changes in land use (GWP-luluc)	kg CO2 eq	1,43E-01	7,46E-04	1,61E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,91E-04	1,45E-03	3,86E-04	-1,73E-01
Ozone layer depletion (ODP)	kg CFC 11 eq	2,38E-05	4,37E-07	3,42E-08	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,88E-07	2,14E-08	8,15E-08	-7,19E-06
Acidification (AP)	mol H+ eq	5,68E-01	5,36E-03	2,90E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,53E-03	1,86E-03	1,95E-03	-2,31E-01
Eutrophication of fresh water (EP-freshwater)	kg P eq	2,19E-02	1,24E-04	3,08E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	8,13E-05	8,84E-05	4,75E-05	-1,15E-02
Eutrophication of sea water (EP-marine)	kg N eq.	9,49E-02	1,09E-03	6,86E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	7,16E-04	3,53E-04	1,04E-02	-2,38E-02
Terrestrial eutrophication (EP-terrestrial)	mol N eq.	9,67E-01	1,19E-02	6,53E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	7,81E-03	3,69E-03	6,05E-03	-3,89E-01
Photochemical ozone formation (POCP)	kg NMVOC eq	3,35E-01	4,56E-03	2,88E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,00E-03	1,01E-03	1,97E-03	-1,17E-01
Depletion of abiotic resources - minerals and metals (ADP-minerals&metals)	kg Sb eq	1,55E-03	6,69E-06	7,58E-06	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,40E-06	7,75E-07	1,09E-06	-5,65E-04
Depletion of abiotic resources - fossil fuels (ADP-fossil)	MJ, valor calorífico neto	1,67E+03	2,86E+01	7,02E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,88E+01	5,14E+00	6,21E+00	-6,45E+02
Water consumption (WDP)	m3 world eq. private	5,01E+01	1,31E-01	3,75E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	8,60E-02	9,24E-02	1,53E-01	-1,73E+01
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. Can be obtained from IPCC characterization factors.																
Global Warming Potential (GHG)	kg CO2 eq	9,07E+01	1,87E+00	6,42E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,23E+00	2,25E-01	7,46E-01	-2,33E+01

A1 Supply of raw materials. A2 Transportation. A3 Manufacturing. A4 Transportation. A5 Installation and construction processes. B1 Use. B2 Maintenance. B3 Repair. B4 Substitution. B5 Rehabilitation. B6 Operational energy use. B7 Operational water use. C1 Deconstruction and demolition. C2 Transportation. C3 Waste management for reuse, recovery and recycling. C4 Fine removal. D Environmental benefits and burdens beyond the system boundary. MND Módulo No Declarado.

Hinged window A84 PH 1.0, double glazing 4-16Ar-4BE

Table 3. Parameters of environmental impact

Parameter	Unit	Life cycle stage														Module D
		Product stage	Construction Process Stage		Use stage							End of life stage				
		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	
Climate change - total (GWP-total)	kg CO2 eq	9,88E+01	1,97E+00	6,70E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,30E+00	2,30E-01	8,75E-01	-2,48E+01
Climate change - fossil (GWP-fossil)	kg CO2 eq	9,80E+01	1,97E+00	6,66E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,30E+00	2,28E-01	8,73E-01	-2,44E+01
Climate change - biogenic (GWP-biogenic)	kg CO2 eq	6,15E-01	1,80E-03	1,86E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,18E-03	1,48E-03	1,49E-03	-2,41E-01
Climate change - land use and changes in land use (GWP-luluc)	kg CO2 eq	1,53E-01	7,80E-04	1,61E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	5,14E-04	1,45E-03	4,07E-04	-1,73E-01
Ozone layer depletion (ODP)	kg CFC 11 eq	2,42E-05	4,57E-07	3,42E-08	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,01E-07	2,14E-08	8,43E-08	-7,22E-06
Acidification (AP)	mol H+ eq	5,90E-01	5,60E-03	2,90E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,69E-03	1,86E-03	2,07E-03	-2,35E-01
Eutrophication of fresh water (EP-freshwater)	kg P eq	2,24E-02	1,29E-04	3,08E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	8,51E-05	8,84E-05	5,28E-05	-1,15E-02
Eutrophication of sea water (EP-marine)	kg N eq.	9,95E-02	1,14E-03	6,86E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	7,49E-04	3,53E-04	1,05E-02	-2,44E-02
Terrestrial eutrophication (EP-terrestrial)	mol N eq.	1,02E+00	1,24E-02	6,53E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	8,17E-03	3,69E-03	6,37E-03	-3,96E-01
Photochemical ozone formation (POCP)	kg NMVOC eq	3,55E-01	4,77E-03	2,88E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,14E-03	1,01E-03	2,07E-03	-1,20E-01
Depletion of abiotic resources - minerals and metals (ADP-minerals&metals)	kg Sb eq	1,61E-03	6,99E-06	7,58E-06	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,60E-06	7,75E-07	1,14E-06	-5,76E-04
Depletion of abiotic resources - fossil fuels (ADP-fossil)	MJ, valor calorífico neto	1,72E+03	2,99E+01	7,02E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,97E+01	5,14E+00	6,52E+00	-6,52E+02
Water consumption (WDP)	m3 world eq. private	5,21E+01	1,37E-01	3,75E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	9,00E-02	9,24E-02	1,61E-01	-1,74E+01
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. Can be obtained from IPCC characterization factors.																
Global Warming Potential (GHG)	kg CO2 eq	9,52E+01	1,95E+00	6,42E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,29E+00	2,25E-01	7,67E-01	-2,39E+01

A1 Supply of raw materials. A2 Transportation. A3 Manufacturing. A4 Transportation. A5 Installation and construction processes. B1 Use. B2 Maintenance. B3 Repair. B4 Substitution. B5 Rehabilitation. B6 Operational energy use. B7 Operational water use. C1 Deconstruction and demolition. C2 Transportation. C3 Waste management for reuse, recovery and recycling. C4 Fine removal. D Environmental benefits and burdens beyond the system boundary. MND Módulo No Declarado.

Hinged window A84 PH HI, double glazing 4-16Ar-4BE

Table 3. Parameters of environmental impact

Parameter	Unit	Life cycle stage														Module D
		Product stage	Construction Process Stage		Use stage							End of life stage				
		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	
Climate change - total (GWP-total)	kg CO2 eq	8,16E+01	1,62E+00	6,70E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,07E+00	2,30E-01	7,96E-01	-2,23E+01
Climate change - fossil (GWP-fossil)	kg CO2 eq	8,08E+01	1,62E+00	6,66E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,06E+00	2,28E-01	7,95E-01	-2,19E+01
Climate change - biogenic (GWP-biogenic)	kg CO2 eq	6,16E-01	1,48E-03	1,86E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	9,70E-04	1,48E-03	7,79E-04	-2,53E-01
Climate change - land use and changes in land use (GWP-luluc)	kg CO2 eq	1,10E-01	6,41E-04	1,61E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,21E-04	1,45E-03	3,21E-04	-1,75E-01
Ozone layer depletion (ODP)	kg CFC 11 eq	2,28E-05	3,75E-07	3,42E-08	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,47E-07	2,14E-08	7,34E-08	-7,24E-06
Acidification (AP)	mol H+ eq	5,13E-01	4,60E-03	2,90E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,02E-03	1,86E-03	1,56E-03	-2,24E-01
Eutrophication of fresh water (EP-freshwater)	kg P eq	2,10E-02	1,06E-04	3,08E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	6,97E-05	8,84E-05	3,04E-05	-1,15E-02
Eutrophication of sea water (EP-marine)	kg N eq.	8,33E-02	9,35E-04	6,86E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	6,14E-04	3,53E-04	1,05E-02	-2,20E-02
Terrestrial eutrophication (EP-terrestrial)	mol N eq.	8,36E-01	1,02E-02	6,53E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	6,69E-03	3,69E-03	5,02E-03	-3,71E-01
Photochemical ozone formation (POCP)	kg NMVOC eq	2,79E-01	3,92E-03	2,88E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,57E-03	1,01E-03	1,66E-03	-1,07E-01
Depletion of abiotic resources - minerals and metals (ADP-minerals&metals)	kg Sb eq	1,37E-03	5,74E-06	7,58E-06	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,77E-06	7,75E-07	9,32E-07	-5,32E-04
Depletion of abiotic resources - fossil fuels (ADP-fossil)	MJ, valor calorífico neto	1,54E+03	2,46E+01	7,02E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,61E+01	5,14E+00	5,29E+00	-6,39E+02
Water consumption (WDP)	m3 world eq. private	4,63E+01	1,12E-01	3,75E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	7,37E-02	9,24E-02	1,28E-01	-1,74E+01
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. Can be obtained from IPCC characterization factors.																
Global Warming Potential (GHG)	kg CO2 eq	7,86E+01	1,61E+00	6,42E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,05E+00	2,25E-01	6,90E-01	-2,16E+01

A1 Supply of raw materials. A2 Transportation. A3 Manufacturing. A4 Transportation. A5 Installation and construction processes. B1 Use. B2 Maintenance. B3 Repair. B4 Substitution. B5 Rehabilitation. B6 Operational energy use. B7 Operational water use. C1 Deconstruction and demolition. C2 Transportation. C3 Waste management for reuse, recovery and recycling. C4 Fine removal. D Environmental benefits and burdens beyond the system boundary. MND Módulo No Declarado.

Hinged window A84 HO, double glazing 4-16Ar-4BE

Table 3. Parameters of environmental impact

Parameter	Unit	Life cycle stage														Module D
		Product stage	Construction Process Stage		Use stage							End of life stage				
		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	
Climate change - total (GWP-total)	kg CO2 eq	9,70E+01	1,95E+00	6,70E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,29E+00	2,37E-01	8,98E-01	-2,52E+01
Climate change - fossil (GWP-fossil)	kg CO2 eq	9,62E+01	1,95E+00	6,66E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,28E+00	2,34E-01	8,97E-01	-2,48E+01
Climate change - biogenic (GWP-biogenic)	kg CO2 eq	5,97E-01	1,78E-03	1,86E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,17E-03	1,57E-03	1,32E-03	-2,55E-01
Climate change - land use and changes in land use (GWP-luluc)	kg CO2 eq	1,44E-01	7,72E-04	1,61E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	5,08E-04	1,46E-03	4,15E-04	-1,82E-01
Ozone layer depletion (ODP)	kg CFC 11 eq	2,37E-05	4,52E-07	3,42E-08	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,98E-07	2,27E-08	9,01E-08	-7,45E-06
Acidification (AP)	mol H+ eq	5,90E-01	5,54E-03	2,90E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,65E-03	1,91E-03	2,07E-03	-2,44E-01
Eutrophication of fresh water (EP-freshwater)	kg P eq	2,31E-02	1,28E-04	3,08E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	8,42E-05	9,13E-05	4,87E-05	-1,20E-02
Eutrophication of sea water (EP-marine)	kg N eq.	9,89E-02	1,13E-03	6,86E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	7,41E-04	3,67E-04	1,07E-02	-2,49E-02
Terrestrial eutrophication (EP-terrestrial)	mol N eq.	1,01E+00	1,23E-02	6,53E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	8,08E-03	3,84E-03	6,41E-03	-4,10E-01
Photochemical ozone formation (POCP)	kg NMVOC eq	3,61E-01	4,72E-03	2,88E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,11E-03	1,06E-03	2,09E-03	-1,22E-01
Depletion of abiotic resources - minerals and metals (ADP-minerals&metals)	kg Sb eq	1,56E-03	6,92E-06	7,58E-06	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,55E-06	8,08E-07	1,20E-06	-5,72E-04
Depletion of abiotic resources - fossil fuels (ADP-fossil)	MJ, valor calorífico neto	1,74E+03	2,96E+01	7,02E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,95E+01	5,27E+00	6,76E+00	-6,78E+02
Water consumption (WDP)	m3 world eq. private	5,14E+01	1,35E-01	3,75E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	8,90E-02	9,66E-02	1,60E-01	-1,80E+01
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. Can be obtained from IPCC characterization factors.																
Global Warming Potential (GHG)	kg CO2 eq	9,35E+01	1,93E+00	6,42E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,27E+00	2,32E-01	7,88E-01	-2,44E+01

A1 Supply of raw materials. A2 Transportation. A3 Manufacturing. A4 Transportation. A5 Installation and construction processes. B1 Use. B2 Maintenance. B3 Repair. B4 Substitution. B5 Rehabilitation. B6 Operational energy use. B7 Operational water use. C1 Deconstruction and demolition. C2 Transportation. C3 Waste management for reuse, recovery and recycling. C4 Fine removal. D Environmental benefits and burdens beyond the system boundary. MND Módulo No Declarado.

Hinged window A84 PH HO, double glazed 4-16Ar-4BE

Table 3. Parameters of environmental impact

Parameter	Unit	Life cycle stage														Module D
		Product stage	Construction Process Stage		Use stage							End of life stage				
		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	
Climate change - total (GWP-total)	kg CO2 eq	9,73E+01	1,96E+00	6,70E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,29E+00	2,37E-01	9,03E-01	-2,53E+01
Climate change - fossil (GWP-fossil)	kg CO2 eq	9,66E+01	1,95E+00	6,66E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,29E+00	2,34E-01	9,01E-01	-2,49E+01
Climate change - biogenic (GWP-biogenic)	kg CO2 eq	6,02E-01	1,78E-03	1,86E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,17E-03	1,57E-03	1,32E-03	-2,56E-01
Climate change - land use and changes in land use (GWP-luluc)	kg CO2 eq	1,44E-01	7,73E-04	1,61E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	5,09E-04	1,46E-03	4,16E-04	-1,83E-01
Ozone layer depletion (ODP)	kg CFC 11 eq	2,37E-05	4,53E-07	3,42E-08	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,98E-07	2,27E-08	9,06E-08	-7,48E-06
Acidification (AP)	mol H+ eq	5,91E-01	5,55E-03	2,90E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,66E-03	1,91E-03	2,08E-03	-2,45E-01
Eutrophication of fresh water (EP-freshwater)	kg P eq	2,31E-02	1,28E-04	3,08E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	8,44E-05	9,13E-05	4,89E-05	-1,21E-02
Eutrophication of sea water (EP-marine)	kg N eq.	9,93E-02	1,13E-03	6,86E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	7,43E-04	3,67E-04	1,08E-02	-2,50E-02
Terrestrial eutrophication (EP-terrestrial)	mol N eq.	1,01E+00	1,23E-02	6,53E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	8,10E-03	3,84E-03	6,43E-03	-4,12E-01
Photochemical ozone formation (POCP)	kg NMVOC eq	3,62E-01	4,73E-03	2,88E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,11E-03	1,06E-03	2,10E-03	-1,23E-01
Depletion of abiotic resources - minerals and metals (ADP-minerals&metals)	kg Sb eq	1,56E-03	6,93E-06	7,58E-06	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,56E-06	8,08E-07	1,20E-06	-5,73E-04
Depletion of abiotic resources - fossil fuels (ADP-fossil)	MJ, valor calorifico neto	1,75E+03	2,96E+01	7,02E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,95E+01	5,27E+00	6,79E+00	-6,82E+02
Water consumption (WDP)	m3 world eq. private	5,17E+01	1,35E-01	3,75E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	8,92E-02	9,66E-02	1,61E-01	-1,81E+01
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. Can be obtained from IPCC characterization factors.																
Global Warming Potential (GHG)	kg CO2 eq	9,39E+01	1,94E+00	6,42E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,28E+00	2,32E-01	7,92E-01	-2,45E+01

A1 Supply of raw materials. A2 Transportation. A3 Manufacturing. A4 Transportation. A5 Installation and construction processes. B1 Use. B2 Maintenance. B3 Repair. B4 Substitution. B5 Rehabilitation. B6 Operational energy use. B7 Operational water use. C1 Deconstruction and demolition. C2 Transportation. C3 Waste management for reuse, recovery and recycling. C4 Fine removal. D Environmental benefits and burdens beyond the system boundary. MND Módulo No Declarado.

Sliding window C70, double glazing 4-16Ar-4BE

Table 3. Parameters of environmental impact

Parameter	Unit	Life cycle stage														Module D
		Product stage	Construction Process Stage		Use stage							End of life stage				
		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	
Climate change - total (GWP-total)	kg CO2 eq	9,20E+01	1,84E+00	6,70E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,21E+00	2,28E-01	7,89E-01	-2,25E+01
Climate change - fossil (GWP-fossil)	kg CO2 eq	9,13E+01	1,84E+00	6,66E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,21E+00	2,25E-01	7,87E-01	-2,21E+01
Climate change - biogenic (GWP-biogenic)	kg CO2 eq	5,28E-01	1,68E-03	1,86E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,10E-03	1,45E-03	1,46E-03	-2,09E-01
Climate change - land use and changes in land use (GWP-luluc)	kg CO2 eq	1,44E-01	7,28E-04	1,61E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,79E-04	1,45E-03	3,93E-04	-1,58E-01
Ozone layer depletion (ODP)	kg CFC 11 eq	2,11E-05	4,26E-07	3,42E-08	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,81E-07	2,10E-08	8,02E-08	-6,24E-06
Acidification (AP)	mol H+ eq	5,48E-01	5,23E-03	2,90E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,44E-03	1,85E-03	2,00E-03	-2,11E-01
Eutrophication of fresh water (EP-freshwater)	kg P eq	2,02E-02	1,21E-04	3,08E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	7,93E-05	8,74E-05	5,21E-05	-1,02E-02
Eutrophication of sea water (EP-marine)	kg N eq.	9,34E-02	1,06E-03	6,86E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	6,99E-04	3,48E-04	8,98E-03	-2,24E-02
Terrestrial eutrophication (EP-terrestrial)	mol N eq.	9,59E-01	1,16E-02	6,53E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	7,62E-03	3,64E-03	6,09E-03	-3,57E-01
Photochemical ozone formation (POCP)	kg NMVOC eq	3,36E-01	4,45E-03	2,88E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,93E-03	9,98E-04	1,96E-03	-1,09E-01
Depletion of abiotic resources - minerals and metals (ADP-minerals&metals)	kg Sb eq	1,48E-03	6,52E-06	7,58E-06	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,29E-06	7,63E-07	1,09E-06	-5,04E-04
Depletion of abiotic resources - fossil fuels (ADP-fossil)	MJ, valor calorífico neto	1,58E+03	2,79E+01	7,02E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,84E+01	5,09E+00	6,24E+00	-5,74E+02
Water consumption (WDP)	m3 world eq. private	4,69E+01	1,27E-01	3,75E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	8,39E-02	9,09E-02	1,52E-01	-1,57E+01
The Indicador includes all greenhouse gases included in GWP-total but excludes biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. This Indicador is thus equal to the GWP Indicador originally defined in EN 15804:2012+A1:2013. Can be obtained from IPCC characterization factors.																
Global Warming Potential (GHG)	kg CO2 eq	8,87E+01	1,82E+00	6,42E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,20E+00	2,23E-01	6,96E-01	-2,18E+01

A1 Supply of raw materials. **A2** Transportation. **A3** Manufacturing. **A4** Transportation. **A5** Installation and construction processes. **B1** Use. **B2** Maintenance. **B3** Repair. **B4** Substitution. **B5** Rehabilitation. **B6** Operational energy use. **B7** Operational water use. **C1** Deconstruction and demolition. **C2** Transportation. **C3** Waste management for reuse, recovery and recycling. **C4** Fine removal. **D** Environmental benefits and burdens beyond the system boundary. **MND** Módulo No Declarado.

Hinged window A70, triple glazing 4BE-14Ar-6-14Ar-4BE

Table 3. Parameters of environmental impact

Parameter	Unit	Life cycle stage														Module D
		Product stage	Construction Process Stage		Use stage							End of life stage				
		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	
Climate change - total (GWP-total)	kg CO2 eq	1,02E+02	2,20E+00	6,70E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,45E+00	2,71E-01	8,92E-01	-2,34E+01
Climate change - fossil (GWP-fossil)	kg CO2 eq	1,01E+02	2,19E+00	6,66E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,45E+00	2,68E-01	8,90E-01	-2,30E+01
Climate change - biogenic (GWP-biogenic)	kg CO2 eq	6,71E-01	2,00E-03	1,86E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,32E-03	2,02E-03	1,37E-03	-2,50E-01
Climate change - land use and changes in land use (GWP-luluc)	kg CO2 eq	1,51E-01	8,68E-04	1,61E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	5,72E-04	1,50E-03	5,31E-04	-1,69E-01
Ozone layer depletion (ODP)	kg CFC 11 eq	2,42E-05	5,09E-07	3,42E-08	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,35E-07	2,94E-08	1,05E-07	-6,67E-06
Acidification (AP)	mol H+ eq	6,55E-01	6,24E-03	2,90E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,11E-03	2,15E-03	2,40E-03	-2,38E-01
Eutrophication of fresh water (EP-freshwater)	kg P eq	2,35E-02	1,44E-04	3,08E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	9,48E-05	1,07E-04	5,31E-05	-1,10E-02
Eutrophication of sea water (EP-marine)	kg N eq.	1,09E-01	1,27E-03	6,86E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	8,35E-04	4,42E-04	9,73E-03	-2,58E-02
Terrestrial eutrophication (EP-terrestrial)	mol N eq.	1,14E+00	1,38E-02	6,53E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	9,10E-03	4,63E-03	7,62E-03	-4,04E-01
Photochemical ozone formation (POCP)	kg NMVOC eq	3,75E-01	5,31E-03	2,88E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,50E-03	1,28E-03	2,43E-03	-1,19E-01
Depletion of abiotic resources - minerals and metals (ADP-minerals&metals)	kg Sb eq	1,65E-03	7,78E-06	7,58E-06	MND	MND	MND	MND	MND	MND	MND	0,00E+00	5,13E-06	9,87E-07	1,34E-06	-5,51E-04
Depletion of abiotic resources - fossil fuels (ADP-fossil)	MJ, valor calorifico neto	1,71E+03	3,33E+01	7,02E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,19E+01	5,95E+00	7,78E+00	-5,99E+02
Water consumption (WDP)	m3 world eq. private	5,09E+01	1,52E-01	3,75E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,00E-01	1,19E-01	1,90E-01	-1,71E+01
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. Can be obtained from IPCC characterization factors.																
Global Warming Potential (GHG)	kg CO2 eq	9,82E+01	2,17E+00	6,42E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,43E+00	2,65E-01	7,92E-01	-2,27E+01

A1 Supply of raw materials. A2 Transportation. A3 Manufacturing. A4 Transportation. A5 Installation and construction processes. B1 Use. B2 Maintenance. B3 Repair. B4 Substitution. B5 Rehabilitation. B6 Operational energy use. B7 Operational water use. C1 Deconstruction and demolition. C2 Transportation. C3 Waste management for reuse, recovery and recycling. C4 Fine removal. D Environmental benefits and burdens beyond the system boundary. MND Módulo No Declarado.

Hinged window A70-triple seal, double glazing 4-16Ar-4BE

Table 3. Parameters of environmental impact

Parameter	Unit	Life cycle stage														Module D
		Product stage	Construction Process Stage		Use stage							End of life stage				
		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	
Climate change - total (GWP-total)	kg CO2 eq	1,02E+02	2,22E+00	6,70E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,46E+00	2,75E-01	9,00E-01	-2,35E+01
Climate change - fossil (GWP-fossil)	kg CO2 eq	1,01E+02	2,22E+00	6,66E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,46E+00	2,71E-01	8,98E-01	-2,31E+01
Climate change - biogenic (GWP-biogenic)	kg CO2 eq	6,61E-01	2,02E-03	1,86E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,33E-03	2,07E-03	1,38E-03	-2,50E-01
Climate change - land use and changes in land use (GWP-luluc)	kg CO2 eq	1,49E-01	8,77E-04	1,61E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	5,78E-04	1,51E-03	5,46E-04	-1,70E-01
Ozone layer depletion (ODP)	kg CFC 11 eq	2,36E-05	5,14E-07	3,42E-08	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,39E-07	3,01E-08	1,09E-07	-6,60E-06
Acidification (AP)	mol H+ eq	6,59E-01	6,30E-03	2,90E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,15E-03	2,17E-03	2,46E-03	-2,40E-01
Eutrophication of fresh water (EP-freshwater)	kg P eq	2,33E-02	1,45E-04	3,08E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	9,58E-05	1,08E-04	5,40E-05	-1,10E-02
Eutrophication of sea water (EP-marine)	kg N eq.	1,10E-01	1,28E-03	6,86E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	8,44E-04	4,50E-04	9,62E-03	-2,61E-02
Terrestrial eutrophication (EP-terrestrial)	mol N eq.	1,15E+00	1,39E-02	6,53E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	9,19E-03	4,71E-03	7,80E-03	-4,07E-01
Photochemical ozone formation (POCP)	kg NMVOC eq	3,77E-01	5,36E-03	2,88E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,53E-03	1,30E-03	2,49E-03	-1,19E-01
Depletion of abiotic resources - minerals and metals (ADP-minerals&metals)	kg Sb eq	1,64E-03	7,86E-06	7,58E-06	MND	MND	MND	MND	MND	MND	MND	0,00E+00	5,18E-06	1,01E-06	1,39E-06	-5,50E-04
Depletion of abiotic resources - fossil fuels (ADP-fossil)	MJ, valor calorífico neto	1,71E+03	3,36E+01	7,02E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,22E+01	6,02E+00	8,02E+00	-5,98E+02
Water consumption (WDP)	m3 world eq. private	5,09E+01	1,54E-01	3,75E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,01E-01	1,21E-01	1,94E-01	-1,71E+01
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. Can be obtained from IPCC characterization factors.																
Global Warming Potential (GHG)	kg CO2 eq	9,89E+01	2,20E+00	6,42E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,45E+00	2,69E-01	8,01E-01	-2,27E+01

A1 Supply of raw materials. A2 Transportation. A3 Manufacturing. A4 Transportation. A5 Installation and construction processes. B1 Use. B2 Maintenance. B3 Repair. B4 Substitution. B5 Rehabilitation. B6 Operational energy use. B7 Operational water use. C1 Deconstruction and demolition. C2 Transportation. C3 Waste management for reuse, recovery and recycling. C4 Fine removal. D Environmental benefits and burdens beyond the system boundary. MND Módulo No Declarado.

Hinged window Alcover, triple glazing 4BE-14Ar-6-14Ar-4BE

Table 3. Parameters of environmental impact

Parameter	Unit	Life cycle stage														Module D
		Product stage	Construction Process Stage		Use stage							End of life stage				
		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	
Climate change - total (GWP-total)	kg CO2 eq	1,13E+02	2,28E+00	6,70E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,50E+00	2,71E-01	9,05E-01	-2,79E+01
Climate change - fossil (GWP-fossil)	kg CO2 eq	1,12E+02	2,27E+00	6,66E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,50E+00	2,68E-01	9,03E-01	-2,73E+01
Climate change - biogenic (GWP-biogenic)	kg CO2 eq	6,55E-01	2,07E-03	1,86E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,37E-03	2,02E-03	1,55E-03	-2,71E-01
Climate change - land use and changes in land use (GWP-luluc)	kg CO2 eq	1,53E-01	8,99E-04	1,61E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	5,93E-04	1,50E-03	5,52E-04	-2,91E-01
Ozone layer depletion (ODP)	kg CFC 11 eq	2,42E-05	5,27E-07	3,42E-08	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,47E-07	2,94E-08	1,08E-07	-7,05E-06
Acidification (AP)	mol H+ eq	7,30E-01	6,46E-03	2,90E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,26E-03	2,15E-03	2,53E-03	-2,61E-01
Eutrophication of fresh water (EP-freshwater)	kg P eq	2,40E-02	1,49E-04	3,08E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	9,82E-05	1,07E-04	5,88E-05	-1,33E-02
Eutrophication of sea water (EP-marine)	kg N eq.	1,19E-01	1,31E-03	6,86E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	8,65E-04	4,42E-04	9,57E-03	-2,95E-02
Terrestrial eutrophication (EP-terrestrial)	mol N eq.	1,25E+00	1,43E-02	6,53E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	9,43E-03	4,63E-03	7,95E-03	-4,34E-01
Photochemical ozone formation (POCP)	kg NMVOC eq	4,04E-01	5,49E-03	2,88E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,62E-03	1,28E-03	2,53E-03	-1,31E-01
Depletion of abiotic resources - minerals and metals (ADP-minerals&metals)	kg Sb eq	1,63E-03	8,06E-06	7,58E-06	MND	MND	MND	MND	MND	MND	MND	0,00E+00	5,31E-06	9,87E-07	1,39E-06	-4,09E-04
Depletion of abiotic resources - fossil fuels (ADP-fossil)	MJ, valor calorífico neto	1,87E+03	3,45E+01	7,02E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,27E+01	5,95E+00	8,09E+00	-6,63E+02
Water consumption (WDP)	m3 world eq. private	5,04E+01	1,57E-01	3,75E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,04E-01	1,19E-01	1,98E-01	-2,59E+01
The Indicador includes all greenhouse gases included in GWP-total but excludes biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. This Indicador is thus equal to the GWP Indicador originally defined in EN 15804:2012+A1:2013. Can be obtained from IPCC characterization factors.																
Global Warming Potential (GHG)	kg CO2 eq	1,09E+02	2,25E+00	6,42E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,49E+00	2,65E-01	8,06E-01	-2,70E+01

A1 Supply of raw materials. **A2** Transportation. **A3** Manufacturing. **A4** Transportation. **A5** Installation and construction processes. **B1** Use. **B2** Maintenance. **B3** Repair. **B4** Substitution. **B5** Rehabilitation. **B6** Operational energy use. **B7** Operational water use. **C1** Deconstruction and demolition. **C2** Transportation. **C3** Waste management for reuse, recovery and recycling. **C4** Fine removal. **D** Environmental benefits and burdens beyond the system boundary. **MND** Módulo No Declarado.

Hinged window A84, triple glazing 4BE-18Ar-4-18Ar-4

Table 3. Parameters of environmental impact

Parameter	Unit	Life cycle stage														Module D
		Product stage	Construction Process Stage		Use stage							End of life stage				
		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	
Climate change - total (GWP-total)	kg CO2 eq	1,06E+02	2,20E+00	6,70E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,45E+00	2,61E-01	9,41E-01	-2,56E+01
Climate change - fossil (GWP-fossil)	kg CO2 eq	1,05E+02	2,19E+00	6,66E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,45E+00	2,58E-01	9,39E-01	-2,52E+01
Climate change - biogenic (GWP-biogenic)	kg CO2 eq	6,67E-01	2,00E-03	1,86E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,32E-03	1,88E-03	1,42E-03	-2,64E-01
Climate change - land use and changes in land use (GWP-luluc)	kg CO2 eq	1,58E-01	8,68E-04	1,61E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	5,72E-04	1,49E-03	4,97E-04	-1,89E-01
Ozone layer depletion (ODP)	kg CFC 11 eq	2,54E-05	5,08E-07	3,42E-08	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,35E-07	2,74E-08	1,03E-07	-7,41E-06
Acidification (AP)	mol H+ eq	6,65E-01	6,23E-03	2,90E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,11E-03	2,08E-03	2,36E-03	-2,53E-01
Eutrophication of fresh water (EP-freshwater)	kg P eq	2,49E-02	1,44E-04	3,08E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	9,47E-05	1,02E-04	5,38E-05	-1,21E-02
Eutrophication of sea water (EP-marine)	kg N eq.	1,11E-01	1,27E-03	6,86E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	8,34E-04	4,19E-04	1,07E-02	-2,67E-02
Terrestrial eutrophication (EP-terrestrial)	mol N eq.	1,15E+00	1,38E-02	6,53E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	9,09E-03	4,39E-03	7,43E-03	-4,27E-01
Photochemical ozone formation (POCP)	kg NMVOC eq	3,83E-01	5,30E-03	2,88E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,50E-03	1,21E-03	2,39E-03	-1,26E-01
Depletion of abiotic resources - minerals and metals (ADP-minerals&metals)	kg Sb eq	1,68E-03	7,78E-06	7,58E-06	MND	MND	MND	MND	MND	MND	MND	0,00E+00	5,13E-06	9,33E-07	1,34E-06	-5,69E-04
Depletion of abiotic resources - fossil fuels (ADP-fossil)	MJ, valor calorífico neto	1,80E+03	3,33E+01	7,02E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,19E+01	5,74E+00	7,69E+00	-6,70E+02
Water consumption (WDP)	m3 world eq. private	5,45E+01	1,52E-01	3,75E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,00E-01	1,12E-01	1,86E-01	-1,88E+01
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. Can be obtained from IPCC characterization factors.																
Global Warming Potential (GHG)	kg CO2 eq	1,02E+02	2,17E+00	6,42E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,43E+00	2,55E-01	8,31E-01	-2,48E+01

A1 Supply of raw materials. A2 Transportation. A3 Manufacturing. A4 Transportation. A5 Installation and construction processes. B1 Use. B2 Maintenance. B3 Repair. B4 Substitution. B5 Rehabilitation. B6 Operational energy use. B7 Operational water use. C1 Deconstruction and demolition. C2 Transportation. C3 Waste management for reuse, recovery and recycling. C4 Fine removal. D Environmental benefits and burdens beyond the system boundary. MND Módulo No Declarado.

Hinged window A84 PH 1.0, triple glazing 4BE-18Ar-4-18Ar-4

Table 3. Parameters of environmental impact

Parameter	Unit	Life cycle stage														Module D
		Product stage	Construction Process Stage		Use stage							End of life stage				
		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	
Climate change - total (GWP-total)	kg CO2 eq	1,11E+02	2,28E+00	6,70E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,50E+00	2,61E-01	9,63E-01	-2,63E+01
Climate change - fossil (GWP-fossil)	kg CO2 eq	1,10E+02	2,28E+00	6,66E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,50E+00	2,58E-01	9,61E-01	-2,59E+01
Climate change - biogenic (GWP-biogenic)	kg CO2 eq	6,78E-01	2,08E-03	1,86E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,37E-03	1,88E-03	1,58E-03	-2,62E-01
Climate change - land use and changes in land use (GWP-luluc)	kg CO2 eq	1,69E-01	9,02E-04	1,61E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	5,95E-04	1,49E-03	5,18E-04	-1,89E-01
Ozone layer depletion (ODP)	kg CFC 11 eq	2,58E-05	5,28E-07	3,42E-08	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,48E-07	2,74E-08	1,06E-07	-7,44E-06
Acidification (AP)	mol H+ eq	6,87E-01	6,48E-03	2,90E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,27E-03	2,08E-03	2,49E-03	-2,56E-01
Eutrophication of fresh water (EP-freshwater)	kg P eq	2,53E-02	1,49E-04	3,08E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	9,85E-05	1,02E-04	5,90E-05	-1,22E-02
Eutrophication of sea water (EP-marine)	kg N eq.	1,16E-01	1,32E-03	6,86E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	8,67E-04	4,19E-04	1,08E-02	-2,73E-02
Terrestrial eutrophication (EP-terrestrial)	mol N eq.	1,20E+00	1,43E-02	6,53E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	9,45E-03	4,39E-03	7,76E-03	-4,34E-01
Photochemical ozone formation (POCP)	kg NMVOC eq	4,03E-01	5,51E-03	2,88E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,63E-03	1,21E-03	2,49E-03	-1,30E-01
Depletion of abiotic resources - minerals and metals (ADP-minerals&metals)	kg Sb eq	1,74E-03	8,08E-06	7,58E-06	MND	MND	MND	MND	MND	MND	MND	0,00E+00	5,33E-06	9,33E-07	1,39E-06	-5,80E-04
Depletion of abiotic resources - fossil fuels (ADP-fossil)	MJ, valor calorífico neto	1,86E+03	3,46E+01	7,02E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,28E+01	5,74E+00	8,00E+00	-6,77E+02
Water consumption (WDP)	m3 world eq. private	5,64E+01	1,58E-01	3,75E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,04E-01	1,12E-01	1,94E-01	-1,88E+01
The Indicador includes all greenhouse gases included in GWP-total but excludes biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. This Indicador is thus equal to the GWP Indicador originally defined in EN 15804:2012+A1:2013. Can be obtained from IPCC characterization factors.																
Global Warming Potential (GHG)	kg CO2 eq	1,07E+02	2,26E+00	6,42E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,49E+00	2,55E-01	8,52E-01	-2,54E+01

A1 Supply of raw materials. **A2** Transportation. **A3** Manufacturing. **A4** Transportation. **A5** Installation and construction processes. **B1** Use. **B2** Maintenance. **B3** Repair. **B4** Substitution. **B5** Rehabilitation. **B6** Operational energy use. **B7** Operational water use. **C1** Deconstruction and demolition. **C2** Transportation. **C3** Waste management for reuse, recovery and recycling. **C4** Fine removal. **D** Environmental benefits and burdens beyond the system boundary. **MND** Módulo No Declarado.

Hinged window A84 PH HI, triple glazed 4BE-18Ar-4-18Ar-4

Table 3. Parameters of environmental impact

Parameter	Unit	Life cycle stage														Module D
		Product stage	Construction Process Stage		Use stage							End of life stage				
			A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	
Climate change - total (GWP-total)	kg CO2 eq	9,36E+01	1,93E+00	6,70E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,27E+00	2,61E-01	8,85E-01	-2,38E+01
Climate change - fossil (GWP-fossil)	kg CO2 eq	9,28E+01	1,93E+00	6,66E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,27E+00	2,58E-01	8,83E-01	-2,34E+01
Climate change - biogenic (GWP-biogenic)	kg CO2 eq	6,80E-01	1,76E-03	1,86E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,16E-03	1,88E-03	8,74E-04	-2,75E-01
Climate change - land use and changes in land use (GWP-luluc)	kg CO2 eq	1,26E-01	7,62E-04	1,61E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	5,02E-04	1,49E-03	4,32E-04	-1,91E-01
Ozone layer depletion (ODP)	kg CFC 11 eq	2,45E-05	4,47E-07	3,42E-08	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,94E-07	2,74E-08	9,50E-08	-7,46E-06
Acidification (AP)	mol H+ eq	6,10E-01	5,48E-03	2,90E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,60E-03	2,08E-03	1,97E-03	-2,46E-01
Eutrophication of fresh water (EP-freshwater)	kg P eq	2,40E-02	1,26E-04	3,08E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	8,31E-05	1,02E-04	3,66E-05	-1,22E-02
Eutrophication of sea water (EP-marine)	kg N eq.	9,95E-02	1,11E-03	6,86E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	7,32E-04	4,19E-04	1,08E-02	-2,49E-02
Terrestrial eutrophication (EP-terrestrial)	mol N eq.	1,02E+00	1,21E-02	6,53E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	7,98E-03	4,39E-03	6,41E-03	-4,09E-01
Photochemical ozone formation (POCP)	kg NMVOC eq	3,27E-01	4,66E-03	2,88E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,07E-03	1,21E-03	2,09E-03	-1,17E-01
Depletion of abiotic resources - minerals and metals (ADP-minerals&metals)	kg Sb eq	1,50E-03	6,83E-06	7,58E-06	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,50E-06	9,33E-07	1,18E-06	-5,37E-04
Depletion of abiotic resources - fossil fuels (ADP-fossil)	MJ, valor calorífico neto	1,68E+03	2,92E+01	7,02E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,92E+01	5,74E+00	6,77E+00	-6,64E+02
Water consumption (WDP)	m3 world eq. private	5,07E+01	1,34E-01	3,75E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	8,79E-02	1,12E-01	1,61E-01	-1,88E+01
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. Can be obtained from IPCC characterization factors.																
Global Warming Potential (GHG)	kg CO2 eq	9,04E+01	1,91E+00	6,42E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,26E+00	2,55E-01	7,75E-01	-2,31E+01

A1 Supply of raw materials. A2 Transportation. A3 Manufacturing. A4 Transportation. A5 Installation and construction processes. B1 Use. B2 Maintenance. B3 Repair. B4 Substitution. B5 Rehabilitation. B6 Operational energy use. B7 Operational water use. C1 Deconstruction and demolition. C2 Transportation. C3 Waste management for reuse, recovery and recycling. C4 Fine removal. D Environmental benefits and burdens beyond the system boundary. MND Módulo No Declarado.

Hinged window A84 HO, triple glazing 4BE-16Ar-4-18Ar-4BE

Table 3. Parameters of environmental impact

Parameter	Unit	Life cycle stage														Module D
		Product stage	Construction Process Stage		Use stage							End of life stage				
		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	
Climate change - total (GWP-total)	kg CO2 eq	1,10E+02	2,29E+00	6,70E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,51E+00	2,70E-01	9,93E-01	-2,67E+01
Climate change - fossil (GWP-fossil)	kg CO2 eq	1,09E+02	2,29E+00	6,66E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,51E+00	2,67E-01	9,91E-01	-2,63E+01
Climate change - biogenic (GWP-biogenic)	kg CO2 eq	6,73E-01	2,08E-03	1,86E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,37E-03	2,01E-03	1,42E-03	-2,78E-01
Climate change - land use and changes in land use (GWP-luluc)	kg CO2 eq	1,60E-01	9,05E-04	1,61E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	5,97E-04	1,50E-03	5,38E-04	-1,98E-01
Ozone layer depletion (ODP)	kg CFC 11 eq	2,54E-05	5,30E-07	3,42E-08	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,50E-07	2,92E-08	1,14E-07	-7,66E-06
Acidification (AP)	mol H+ eq	6,97E-01	6,50E-03	2,90E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,29E-03	2,14E-03	2,52E-03	-2,67E-01
Eutrophication of fresh water (EP-freshwater)	kg P eq	2,63E-02	1,50E-04	3,08E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	9,89E-05	1,06E-04	5,55E-05	-1,27E-02
Eutrophication of sea water (EP-marine)	kg N eq.	1,17E-01	1,32E-03	6,86E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	8,70E-04	4,40E-04	1,11E-02	-2,81E-02
Terrestrial eutrophication (EP-terrestrial)	mol N eq.	1,21E+00	1,44E-02	6,53E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	9,49E-03	4,61E-03	7,93E-03	-4,50E-01
Photochemical ozone formation (POCP)	kg NMVOC eq	4,14E-01	5,53E-03	2,88E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,65E-03	1,27E-03	2,56E-03	-1,32E-01
Depletion of abiotic resources - minerals and metals (ADP-minerals&metals)	kg Sb eq	1,72E-03	8,11E-06	7,58E-06	MND	MND	MND	MND	MND	MND	MND	0,00E+00	5,35E-06	9,82E-07	1,47E-06	-5,78E-04
Depletion of abiotic resources - fossil fuels (ADP-fossil)	MJ, valor calorífico neto	1,89E+03	3,47E+01	7,02E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,29E+01	5,93E+00	8,36E+00	-7,02E+02
Water consumption (WDP)	m3 world eq. private	5,60E+01	1,58E-01	3,75E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,05E-01	1,18E-01	1,97E-01	-1,94E+01
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. Can be obtained from IPCC characterization factors.																
Global Warming Potential (GHG)	kg CO2 eq	1,06E+02	2,27E+00	6,42E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,49E+00	2,64E-01	8,79E-01	-2,59E+01

A1 Supply of raw materials. **A2** Transportation. **A3** Manufacturing. **A4** Transportation. **A5** Installation and construction processes. **B1** Use. **B2** Maintenance. **B3** Repair. **B4** Substitution. **B5** Rehabilitation. **B6** Operational energy use. **B7** Operational water use. **C1** Deconstruction and demolition. **C2** Transportation. **C3** Waste management for reuse, recovery and recycling. **C4** Fine removal. **D** Environmental benefits and burdens beyond the system boundary. **MND** Módulo No Declarado.

Hinged window A84 PH HO, triple glazing 4BE-16Ar-4-18Ar-4BE

Table 3. Parameters of environmental impact

Parameter	Unit	Life cycle stage														Module D
		Product stage	Construction Process Stage		Use stage							End of life stage				
		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	
Climate change - total (GWP-total)	kg CO2 eq	1,10E+02	2,29E+00	6,70E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,51E+00	2,70E-01	9,97E-01	-2,69E+01
Climate change - fossil (GWP-fossil)	kg CO2 eq	1,10E+02	2,29E+00	6,66E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,51E+00	2,67E-01	9,95E-01	-2,64E+01
Climate change - biogenic (GWP-biogenic)	kg CO2 eq	6,78E-01	2,09E-03	1,86E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,38E-03	2,01E-03	1,43E-03	-2,79E-01
Climate change - land use and changes in land use (GWP-luluc)	kg CO2 eq	1,60E-01	9,06E-04	1,61E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	5,98E-04	1,50E-03	5,39E-04	-1,99E-01
Ozone layer depletion (ODP)	kg CFC 11 eq	2,54E-05	5,31E-07	3,42E-08	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,50E-07	2,92E-08	1,14E-07	-7,70E-06
Acidification (AP)	mol H+ eq	6,99E-01	6,51E-03	2,90E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,29E-03	2,14E-03	2,53E-03	-2,68E-01
Eutrophication of fresh water (EP-freshwater)	kg P eq	2,63E-02	1,50E-04	3,08E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	9,90E-05	1,06E-04	5,56E-05	-1,27E-02
Eutrophication of sea water (EP-marine)	kg N eq.	1,17E-01	1,32E-03	6,86E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	8,72E-04	4,40E-04	1,11E-02	-2,82E-02
Terrestrial eutrophication (EP-terrestrial)	mol N eq.	1,22E+00	1,44E-02	6,53E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	9,50E-03	4,61E-03	7,95E-03	-4,52E-01
Photochemical ozone formation (POCP)	kg NMVOC eq	4,15E-01	5,54E-03	2,88E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,65E-03	1,27E-03	2,57E-03	-1,33E-01
Depletion of abiotic resources - minerals and metals (ADP-minerals&metals)	kg Sb eq	1,73E-03	8,12E-06	7,58E-06	MND	MND	MND	MND	MND	MND	MND	0,00E+00	5,36E-06	9,82E-07	1,47E-06	-5,80E-04
Depletion of abiotic resources - fossil fuels (ADP-fossil)	MJ, valor calorífico neto	1,90E+03	3,47E+01	7,02E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,29E+01	5,93E+00	8,40E+00	-7,06E+02
Water consumption (WDP)	m3 world eq. private	5,64E+01	1,59E-01	3,75E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,05E-01	1,18E-01	1,97E-01	-1,95E+01
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. Can be obtained from IPCC characterization factors.																
Global Warming Potential (GHG)	kg CO2 eq	1,07E+02	2,27E+00	6,42E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,50E+00	2,64E-01	8,83E-01	-2,60E+01

A1 Supply of raw materials. A2 Transportation. A3 Manufacturing. A4 Transportation. A5 Installation and construction processes. B1 Use. B2 Maintenance. B3 Repair. B4 Substitution. B5 Rehabilitation. B6 Operational energy use. B7 Operational water use. C1 Deconstruction and demolition. C2 Transportation. C3 Waste management for reuse, recovery and recycling. C4 Fine removal. D Environmental benefits and burdens beyond the system boundary. MND Módulo No Declarado.

Hinged window A70, double glazing 4-16Ar-4BE

Table 4. Parameters for the use of resources, waste and output material flows

Parameter	Unit	Life cycle stage														Module D
		Product stage	Construction Process Stage		Use stage							End of life stage				
		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	
Use of renewable primary energy excluding renewable primary energy resources used as feedstock	MJ, net calorific value	1,03E+02	3,86E-01	6,44E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,54E-01	1,00E+00	1,40E-01	-1,01E+02
Use of renewable primary energy used as raw material	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of renewable primary energy (primary energy and renewable primary energy resources used as feedstock)	MJ, net calorific value	1,03E+02	3,86E-01	6,44E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,54E-01	1,00E+00	1,40E-01	-1,01E+02
Non-renewable primary energy use, excluding non-renewable primary energy resources used as feedstock	MJ, net calorific value	1,67E+03	2,87E+01	7,45E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,89E+01	5,35E+00	6,24E+00	-6,10E+02
Use of non-renewable primary energy used as raw material	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of non-renewable primary energy (primary energy and renewable primary energy resources used as feedstock)	MJ, net calorific value	1,67E+03	2,87E+01	7,45E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,89E+01	5,35E+00	6,24E+00	-6,10E+02
Use of secondary materials	kg	4,13E+00	0,00E+00	1,37E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of renewable secondary fuels	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of non-renewable secondary fuels	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Net use of freshwater resources	m3	1,51E+02	1,24E-01	3,75E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	8,12E-02	9,24E-02	1,69E-01	-3,77E+01
Hazardous waste removed	kg	6,24E-02	7,06E-05	3,85E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,64E-05	3,11E-06	1,11E-05	-3,54E-04
Non-hazardous waste eliminated	kg	2,50E+01	1,41E+00	2,73E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	9,30E-01	2,00E+00	1,40E+01	-3,95E+00
Radioactive waste disposed of	kg	4,86E-03	1,83E-04	1,51E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,20E-04	3,85E-05	3,52E-05	-3,29E-03
Components for reuse	kg	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	4,50E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	1,45E+01	0,00E+00	0,00E+00
Materials for energy recovery (energy recovery)	kg	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	7,45E+00	0,00E+00	0,00E+00
Exported energy	MJ by energy vector	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	1,61E+02	0,00E+00	0,00E+00

A1 Supply of raw materials. A2 Transportation. A3 Manufacturing. A4 Transportation. A5 Installation and construction processes. B1 Use. B2 Maintenance. B3 Repair. B4 Substitution. B5 Rehabilitation. B6 Operational energy use. B7 Operational water use. C1 Deconstruction and demolition. C2 Transportation. C3 Waste management for reuse, recovery and recycling. C4 Fine removal. D Environmental benefits and burdens beyond the system boundary. MND Módulo No Declarado.

Hinged window A70-triple seal, double glazing 4-16Ar-4BE

Table 4. Parameters for the use of resources, waste and output material flows

Parameter	Unit	Life cycle stage														Module D
		Product stage	Construction Process Stage		Use stage							End of life stage				
		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	
Use of renewable primary energy excluding renewable primary energy resources used as feedstock	MJ, net calorific value	1,01E+02	3,88E-01	6,44E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,55E-01	1,00E+00	1,41E-01	-1,01E+02
Use of renewable primary energy used as raw material	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of renewable primary energy (primary energy and renewable primary energy resources used as feedstock)	MJ, net calorific value	1,01E+02	3,88E-01	6,44E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,55E-01	1,00E+00	1,41E-01	-1,01E+02
Non-renewable primary energy use, excluding non-renewable primary energy resources used as feedstock	MJ, net calorific value	1,66E+03	2,88E+01	7,45E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,89E+01	5,39E+00	6,42E+00	-6,09E+02
Use of non-renewable primary energy used as raw material	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of non-renewable primary energy (primary energy and renewable primary energy resources used as feedstock)	MJ, net calorific value	1,66E+03	2,88E+01	7,45E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,89E+01	5,39E+00	6,42E+00	-6,09E+02
Use of secondary materials	kg	4,08E+00	0,00E+00	1,37E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of renewable secondary fuels	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of non-renewable secondary fuels	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Net use of freshwater resources	m3	1,50E+02	1,24E-01	3,75E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	8,15E-02	9,37E-02	1,71E-01	-3,75E+01
Hazardous waste removed	kg	6,20E-02	7,08E-05	3,85E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,66E-05	3,18E-06	1,15E-05	-3,44E-04
Non-hazardous waste eliminated	kg	2,47E+01	1,42E+00	2,73E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	9,34E-01	2,08E+00	1,42E+01	-3,94E+00
Radioactive waste disposed of	kg	4,80E-03	1,83E-04	1,51E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,21E-04	3,88E-05	3,64E-05	-3,30E-03
Components for reuse	kg	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	4,23E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	1,45E+01	0,00E+00	0,00E+00
Materials for energy recovery (energy recovery)	kg	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	7,44E+00	0,00E+00	0,00E+00
Exported energy	MJ by energy vector	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	1,62E+02	0,00E+00	0,00E+00

A1 Supply of raw materials.A2 Transportation. A3 Manufacturing. A4 Transportation. A5 Installation and construction processes. B1 Use. B2 Maintenance. B3 Repair. B4 Substitution. B5 Rehabilitation. B6 Operational energy use. B7 Operational water use. C1 Deconstruction and demolition. C2 Transportation. C3 Waste management for reuse, recovery and recycling. C4 Fine removal. D Environmental benefits and burdens beyond the system boundary. MND Módulo No Declarado.

Hinged window Alcover, double glazed 4-16Ar-4BE

Table 4. Parameters for the use of resources, waste and output material flows

Parameter	Unit	Life cycle stage														Module D	
		Product stage	Construction Process Stage			Use stage							End of life stage				
		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4		
Use of renewable primary energy excluding renewable primary energy resources used as feedstock	MJ, net calorific value	1,60E+02	4,03E-01	6,44E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,65E-01	1,00E+00	1,57E-01	-1,31E+02	
Use of renewable primary energy used as raw material	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Total use of renewable primary energy (primary energy and renewable primary energy resources used as feedstock)	MJ, net calorific value	1,60E+02	4,03E-01	6,44E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,65E-01	1,00E+00	1,57E-01	-1,31E+02	
Non-renewable primary energy use, excluding non-renewable primary energy resources used as feedstock	MJ, net calorific value	1,83E+03	3,00E+01	7,45E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,97E+01	5,35E+00	6,56E+00	-6,79E+02	
Use of non-renewable primary energy used as raw material	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Total use of non-renewable primary energy (primary energy and renewable primary energy resources used as feedstock)	MJ, net calorific value	1,83E+03	3,00E+01	7,45E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,97E+01	5,35E+00	6,56E+00	-6,79E+02	
Use of secondary materials	kg	4,65E+00	0,00E+00	1,37E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Use of renewable secondary fuels	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Use of non-renewable secondary fuels	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Net use of freshwater resources	m3	1,53E+02	1,29E-01	3,75E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	8,48E-02	9,24E-02	1,77E-01	-4,62E+01	
Hazardous waste removed	kg	6,56E-01	7,36E-05	3,85E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,85E-05	3,11E-06	1,15E-05	6,23E-03	
Non-hazardous waste eliminated	kg	2,77E+01	1,48E+00	2,73E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	9,72E-01	2,00E+00	1,44E+01	-5,40E+00	
Radioactive waste disposed of	kg	1,17E-02	1,91E-04	1,51E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,25E-04	3,85E-05	3,66E-05	-3,73E-03	
Components for reuse	kg	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Materials for recycling	kg	4,46E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	1,59E+01	0,00E+00	0,00E+00	
Materials for energy recovery (energy recovery)	kg	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	7,31E+00	0,00E+00	0,00E+00	
Exported energy	MJ by energy vector	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	1,58E+02	0,00E+00	0,00E+00	

A1 Supply of raw materials. A2 Transportation. A3 Manufacturing. A4 Transportation. A5 Installation and construction processes. B1 Use. B2 Maintenance. B3 Repair. B4 Substitution. B5 Rehabilitation. B6 Operational energy use. B7 Operational water use. C1 Deconstruction and demolition. C2 Transportation. C3 Waste management for reuse, recovery and recycling. C4 Fine removal. D Environmental benefits and burdens beyond the system boundary. MND Módulo No Declarado.

Hinged window A84, double glazed 4-16Ar-4BE

Table 4. Parameters for the use of resources, waste and output material flows

Parameter	Unit	Life cycle stage														Module D	
		Product stage	Construction Process Stage			Use stage							End of life stage				
		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4		
Use of renewable primary energy excluding renewable primary energy resources used as feedstock	MJ, net calorific value	1,08E+02	4,09E-01	6,44E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,69E-01	1,00E+00	1,48E-01	-1,11E+02	
Use of renewable primary energy used as raw material	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Total use of renewable primary energy (primary energy and renewable primary energy resources used as feedstock)	MJ, net calorific value	1,08E+02	4,09E-01	6,44E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,69E-01	1,00E+00	1,48E-01	-1,11E+02	
Non-renewable primary energy use, excluding non-renewable primary energy resources used as feedstock	MJ, net calorific value	1,78E+03	3,04E+01	7,45E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,00E+01	5,35E+00	6,60E+00	-6,75E+02	
Use of non-renewable primary energy used as raw material	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Total use of non-renewable primary energy (primary energy and renewable primary energy resources used as feedstock)	MJ, net calorific value	1,78E+03	3,04E+01	7,45E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,00E+01	5,35E+00	6,60E+00	-6,75E+02	
Use of secondary materials	kg	4,21E+00	0,00E+00	1,37E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Use of renewable secondary fuels	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Use of non-renewable secondary fuels	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Net use of freshwater resources	m3	1,57E+02	1,31E-01	3,75E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	8,60E-02	9,24E-02	1,77E-01	-3,99E+01	
Hazardous waste removed	kg	6,12E-02	7,46E-05	3,85E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,91E-05	3,11E-06	1,18E-05	-3,92E-04	
Non-hazardous waste eliminated	kg	2,61E+01	1,50E+00	2,73E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	9,85E-01	2,00E+00	1,45E+01	-4,25E+00	
Radioactive waste disposed of	kg	5,05E-03	1,93E-04	1,51E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,27E-04	3,85E-05	3,74E-05	-3,64E-03	
Components for reuse	kg	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Materials for recycling	kg	4,16E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	1,53E+01	0,00E+00	0,00E+00	
Materials for energy recovery (energy recovery)	kg	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	8,30E+00	0,00E+00	0,00E+00	
Exported energy	MJ by energy vector	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	1,80E+02	0,00E+00	0,00E+00	

A1 Supply of raw materials. A2 Transportation. A3 Manufacturing. A4 Transportation. A5 Installation and construction processes. B1 Use. B2 Maintenance. B3 Repair. B4 Substitution. B5 Rehabilitation. B6 Operational energy use. B7 Operational water use. C1 Deconstruction and demolition. C2 Transportation. C3 Waste management for reuse, recovery and recycling. C4 Fine removal. D Environmental benefits and burdens beyond the system boundary. MND Módulo No Declarado.

Hinged window A84 PH 1.0, double glazing 4-16Ar-4BE

Table 4. Parameters for the use of resources, waste and output material flows

Parameter	Unit	Life cycle stage														Module D
		Product stage	Construction Process Stage		Use stage							End of life stage				
		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	
Use of renewable primary energy excluding renewable primary energy resources used as feedstock	MJ, net calorific value	1,12E+02	4,27E-01	6,44E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,81E-01	1,00E+00	1,64E-01	-1,12E+02
Use of renewable primary energy used as raw material	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of renewable primary energy (primary energy and renewable primary energy resources used as feedstock)	MJ, net calorific value	1,12E+02	4,27E-01	6,44E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,81E-01	1,00E+00	1,64E-01	-1,12E+02
Non-renewable primary energy use, excluding non-renewable primary energy resources used as feedstock	MJ, net calorific value	1,84E+03	3,17E+01	7,45E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,09E+01	5,35E+00	6,93E+00	-6,82E+02
Use of non-renewable primary energy used as raw material	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of non-renewable primary energy (primary energy and renewable primary energy resources used as feedstock)	MJ, net calorific value	1,84E+03	3,17E+01	7,45E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,09E+01	5,35E+00	6,93E+00	-6,82E+02
Use of secondary materials	kg	5,14E+00	0,00E+00	1,37E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of renewable secondary fuels	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of non-renewable secondary fuels	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Net use of freshwater resources	m3	1,82E+02	1,37E-01	3,75E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	9,00E-02	9,24E-02	1,85E-01	-4,51E+01
Hazardous waste removed	kg	6,15E-02	7,80E-05	3,85E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	5,14E-05	3,11E-06	1,22E-05	-4,48E-04
Non-hazardous waste eliminated	kg	2,83E+01	1,56E+00	2,73E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,03E+00	2,00E+00	1,50E+01	-4,50E+00
Radioactive waste disposed of	kg	5,23E-03	2,02E-04	1,51E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,33E-04	3,85E-05	3,87E-05	-3,65E-03
Components for reuse	kg	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	4,28E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	1,66E+01	0,00E+00	0,00E+00
Materials for energy recovery (energy recovery)	kg	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	8,32E+00	0,00E+00	0,00E+00
Exported energy	MJ by energy vector	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	1,80E+02	0,00E+00	0,00E+00

A1 Supply of raw materials. A2 Transportation. A3 Manufacturing. A4 Transportation. A5 Installation and construction processes. B1 Use. B2 Maintenance. B3 Repair. B4 Substitution. B5 Rehabilitation. B6 Operational energy use. B7 Operational water use. C1 Deconstruction and demolition. C2 Transportation. C3 Waste management for reuse, recovery and recycling. C4 Fine removal. D Environmental benefits and burdens beyond the system boundary. MND Módulo No Declarado.

Hinged window A84 PH HI, double glazing 4-16Ar-4BE

Table 4. Parameters for the use of resources, waste and output material flows

Parameter	Unit	Life cycle stage														Module D	
		Product stage	Construction Process Stage			Use stage							End of life stage				
		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4		
Use of renewable primary energy excluding renewable primary energy resources used as feedstock	MJ, net calorific value	9,65E+01	3,51E-01	6,44E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,31E-01	1,00E+00	9,40E-02	-1,11E+02	
Use of renewable primary energy used as raw material	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Total use of renewable primary energy (primary energy and renewable primary energy resources used as feedstock)	MJ, net calorific value	9,65E+01	3,51E-01	6,44E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,31E-01	1,00E+00	9,40E-02	-1,11E+02	
Non-renewable primary energy use, excluding non-renewable primary energy resources used as feedstock	MJ, net calorific value	1,65E+03	2,61E+01	7,45E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,71E+01	5,35E+00	5,62E+00	-6,68E+02	
Use of non-renewable primary energy used as raw material	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Total use of non-renewable primary energy (primary energy and renewable primary energy resources used as feedstock)	MJ, net calorific value	1,65E+03	2,61E+01	7,45E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,71E+01	5,35E+00	5,62E+00	-6,68E+02	
Use of secondary materials	kg	1,15E+00	0,00E+00	1,37E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Use of renewable secondary fuels	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Use of non-renewable secondary fuels	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Net use of freshwater resources	m3	7,66E+01	1,12E-01	3,75E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	7,37E-02	9,24E-02	1,52E-01	-2,32E+01	
Hazardous waste removed	kg	6,15E-02	6,41E-05	3,85E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,21E-05	3,11E-06	1,07E-05	-2,14E-04	
Non-hazardous waste eliminated	kg	1,93E+01	1,29E+00	2,73E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	8,44E-01	2,00E+00	1,32E+01	-3,45E+00	
Radioactive waste disposed of	kg	4,52E-03	1,66E-04	1,51E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,09E-04	3,85E-05	3,33E-05	-3,70E-03	
Components for reuse	kg	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Materials for recycling	kg	4,19E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	1,10E+01	0,00E+00	0,00E+00	
Materials for energy recovery (energy recovery)	kg	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	8,46E+00	0,00E+00	0,00E+00	
Exported energy	MJ by energy vector	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	1,84E+02	0,00E+00	0,00E+00	

A1 Supply of raw materials.A2 Transportation. A3 Manufacturing. A4 Transportation. A5 Installation and construction processes. B1 Use. B2 Maintenance. B3 Repair. B4 Substitution. B5 Rehabilitation. B6 Operational energy use. B7 Operational water use. C1 Deconstruction and demolition. C2 Transportation. C3 Waste management for reuse, recovery and recycling. C4 Fine removal. D Environmental benefits and burdens beyond the system boundary. MND Módulo No Declarado.

Hinged window A84 HO, double glazing 4-16Ar-4BE

Table 4. Parameters for the use of resources, waste and output material flows

Parameter	Unit	Life cycle stage														Module D	
		Product stage	Construction Process Stage			Use stage							End of life stage				
		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4		
Use of renewable primary energy excluding renewable primary energy resources used as feedstock	MJ, net calorific value	1,11E+02	4,23E-01	6,44E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,78E-01	1,01E+00	1,51E-01	-1,17E+02	
Use of renewable primary energy used as raw material	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Total use of renewable primary energy (primary energy and renewable primary energy resources used as feedstock)	MJ, net calorific value	1,11E+02	4,23E-01	6,44E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,78E-01	1,01E+00	1,51E-01	-1,17E+02	
Non-renewable primary energy use, excluding non-renewable primary energy resources used as feedstock	MJ, net calorific value	1,86E+03	3,14E+01	7,45E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,07E+01	5,48E+00	7,18E+00	-7,09E+02	
Use of non-renewable primary energy used as raw material	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Total use of non-renewable primary energy (primary energy and renewable primary energy resources used as feedstock)	MJ, net calorific value	1,86E+03	3,14E+01	7,45E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,07E+01	5,48E+00	7,18E+00	-7,09E+02	
Use of secondary materials	kg	3,93E+00	0,00E+00	1,37E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Use of renewable secondary fuels	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Use of non-renewable secondary fuels	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Net use of freshwater resources	m3	1,51E+02	1,35E-01	3,75E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	8,90E-02	9,66E-02	1,85E-01	-3,91E+01	
Hazardous waste removed	kg	6,14E-02	7,72E-05	3,85E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	5,08E-05	3,31E-06	1,32E-05	-3,53E-04	
Non-hazardous waste eliminated	kg	2,61E+01	1,55E+00	2,73E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,02E+00	2,24E+00	1,55E+01	-4,32E+00	
Radioactive waste disposed of	kg	5,17E-03	2,00E-04	1,51E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,32E-04	3,93E-05	4,12E-05	-3,86E-03	
Components for reuse	kg	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Materials for recycling	kg	4,24E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	1,52E+01	0,00E+00	0,00E+00	
Materials for energy recovery (energy recovery)	kg	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	8,79E+00	0,00E+00	0,00E+00	
Exported energy	MJ by energy vector	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	1,92E+02	0,00E+00	0,00E+00	

A1 Supply of raw materials. A2 Transportation. A3 Manufacturing. A4 Transportation. A5 Installation and construction processes. B1 Use. B2 Maintenance. B3 Repair. B4 Substitution. B5 Rehabilitation. B6 Operational energy use. B7 Operational water use. C1 Deconstruction and demolition. C2 Transportation. C3 Waste management for reuse, recovery and recycling. C4 Fine removal. D Environmental benefits and burdens beyond the system boundary. MND Módulo No Declarado.

Hinged window A84 PH HO, double glazed 4-16Ar-4BE

Table 4. Parameters for the use of resources, waste and output material flows

Parameter	Unit	Life cycle stage														Module D	
		Product stage	Construction Process Stage			Use stage							End of life stage				
			A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3		C4
Use of renewable primary energy excluding renewable primary energy resources used as feedstock	MJ, net calorific value	1,11E+02	4,24E-01	6,44E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,79E-01	1,01E+00	1,52E-01	-1,18E+02	
Use of renewable primary energy used as raw material	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Total use of renewable primary energy (primary energy and renewable primary energy resources used as feedstock)	MJ, net calorific value	1,11E+02	4,24E-01	6,44E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,79E-01	1,01E+00	1,52E-01	-1,18E+02	
Non-renewable primary energy use, excluding non-renewable primary energy resources used as feedstock	MJ, net calorific value	1,87E+03	3,15E+01	7,45E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,07E+01	5,48E+00	7,22E+00	-7,13E+02	
Use of non-renewable primary energy used as raw material	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Total use of non-renewable primary energy (primary energy and renewable primary energy resources used as feedstock)	MJ, net calorific value	1,87E+03	3,15E+01	7,45E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,07E+01	5,48E+00	7,22E+00	-7,13E+02	
Use of secondary materials	kg	3,93E+00	0,00E+00	1,37E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Use of renewable secondary fuels	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Use of non-renewable secondary fuels	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Net use of freshwater resources	m3	1,51E+02	1,35E-01	3,75E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	8,92E-02	9,66E-02	1,85E-01	-3,91E+01	
Hazardous waste removed	kg	6,14E-02	7,74E-05	3,85E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	5,09E-05	3,31E-06	1,33E-05	-3,55E-04	
Non-hazardous waste eliminated	kg	2,61E+01	1,55E+00	2,73E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,02E+00	2,24E+00	1,55E+01	-4,34E+00	
Radioactive waste disposed of	kg	5,17E-03	2,00E-04	1,51E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,32E-04	3,93E-05	4,14E-05	-3,88E-03	
Components for reuse	kg	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Materials for recycling	kg	4,20E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	1,52E+01	0,00E+00	0,00E+00	
Materials for energy recovery (energy recovery)	kg	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	8,85E+00	0,00E+00	0,00E+00	
Exported energy	MJ by energy vector	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	1,93E+02	0,00E+00	0,00E+00	

A1 Supply of raw materials. A2 Transportation. A3 Manufacturing. A4 Transportation. A5 Installation and construction processes. B1 Use. B2 Maintenance. B3 Repair. B4 Substitution. B5 Rehabilitation. B6 Operational energy use. B7 Operational water use. C1 Deconstruction and demolition. C2 Transportation. C3 Waste management for reuse, recovery and recycling. C4 Fine removal. D Environmental benefits and burdens beyond the system boundary. MND Módulo No Declarado.

Sliding window C70, double glazing 4-16Ar-4BE

Table 4. Parameters for the use of resources, waste and output material flows

Parameter	Unit	Life cycle stage														Module D	
		Product stage	Construction Process Stage			Use stage							End of life stage				
		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4		
Use of renewable primary energy excluding renewable primary energy resources used as feedstock	MJ, net calorific value	1,07E+02	3,99E-01	6,44E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,62E-01	9,98E-01	1,62E-01	-9,95E+01	
Use of renewable primary energy used as raw material	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Total use of renewable primary energy (primary energy and renewable primary energy resources used as feedstock)	MJ, net calorific value	1,07E+02	3,99E-01	6,44E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,62E-01	9,98E-01	1,62E-01	-9,95E+01	
Non-renewable primary energy use, excluding non-renewable primary energy resources used as feedstock	MJ, net calorific value	1,69E+03	2,96E+01	7,45E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,95E+01	5,30E+00	6,64E+00	-6,00E+02	
Use of non-renewable primary energy used as raw material	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Total use of non-renewable primary energy (primary energy and renewable primary energy resources used as feedstock)	MJ, net calorific value	1,69E+03	2,96E+01	7,45E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,95E+01	5,30E+00	6,64E+00	-6,00E+02	
Use of secondary materials	kg	5,48E+00	0,00E+00	1,37E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Use of renewable secondary fuels	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Use of non-renewable secondary fuels	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Net use of freshwater resources	m3	1,81E+02	1,27E-01	3,75E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	8,39E-02	9,09E-02	1,80E-01	-4,47E+01	
Hazardous waste removed	kg	1,02E-01	7,28E-05	3,85E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,79E-05	3,04E-06	1,17E-05	-3,07E-05	
Non-hazardous waste eliminated	kg	2,73E+01	1,46E+00	2,73E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	9,61E-01	1,92E+00	1,41E+01	-4,26E+00	
Radioactive waste disposed of	kg	5,33E-03	1,88E-04	1,51E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,24E-04	3,82E-05	3,69E-05	-3,20E-03	
Components for reuse	kg	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Materials for recycling	kg	4,15E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	1,59E+01	0,00E+00	0,00E+00	
Materials for energy recovery (energy recovery)	kg	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	7,19E+00	0,00E+00	0,00E+00	
Exported energy	MJ by energy vector	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	1,56E+02	0,00E+00	0,00E+00	

A1 Supply of raw materials. A2 Transportation. A3 Manufacturing. A4 Transportation. A5 Installation and construction processes. B1 Use. B2 Maintenance. B3 Repair. B4 Substitution. B5 Rehabilitation. B6 Operational energy use. B7 Operational water use. C1 Deconstruction and demolition. C2 Transportation. C3 Waste management for reuse, recovery and recycling. C4 Fine removal. D Environmental benefits and burdens beyond the system boundary. MND Módulo No Declarado.

Hinged window A70, triple glazing 4BE-14Ar-6-14Ar-4BE

Table 4. Parameters for the use of resources, waste and output material flows

Parameter	Unit	Life cycle stage														Module D
		Product stage	Construction Process Stage		Use stage							End of life stage				
		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	
Use of renewable primary energy excluding renewable primary energy resources used as feedstock	MJ, net calorific value	1,12E+02	4,76E-01	6,44E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,14E-01	1,06E+00	1,64E-01	-1,06E+02
Use of renewable primary energy used as raw material	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of renewable primary energy (primary energy and renewable primary energy resources used as feedstock)	MJ, net calorific value	1,12E+02	4,76E-01	6,44E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,14E-01	1,06E+00	1,64E-01	-1,06E+02
Non-renewable primary energy use, excluding non-renewable primary energy resources used as feedstock	MJ, net calorific value	1,83E+03	3,53E+01	7,45E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,33E+01	6,20E+00	8,27E+00	-6,26E+02
Use of non-renewable primary energy used as raw material	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of non-renewable primary energy (primary energy and renewable primary energy resources used as feedstock)	MJ, net calorific value	1,83E+03	3,53E+01	7,45E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,33E+01	6,20E+00	8,27E+00	-6,26E+02
Use of secondary materials	kg	4,13E+00	0,00E+00	1,37E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of renewable secondary fuels	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of non-renewable secondary fuels	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Net use of freshwater resources	m3	1,55E+02	1,52E-01	3,75E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,00E-01	1,19E-01	2,18E-01	-3,88E+01
Hazardous waste removed	kg	6,32E-02	8,69E-05	3,85E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	5,73E-05	4,35E-06	1,52E-05	-6,96E-06
Non-hazardous waste eliminated	kg	2,76E+01	1,74E+00	2,73E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,15E+00	3,48E+00	1,99E+01	-4,20E+00
Radioactive waste disposed of	kg	5,42E-03	2,25E-04	1,51E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,48E-04	4,38E-05	4,79E-05	-3,45E-03
Components for reuse	kg	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	5,04E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	1,70E+01	0,00E+00	0,00E+00
Materials for energy recovery (energy recovery)	kg	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	7,60E+00	0,00E+00	0,00E+00
Exported energy	MJ by energy vector	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	1,65E+02	0,00E+00	0,00E+00

A1 Supply of raw materials. A2 Transportation. A3 Manufacturing. A4 Transportation. A5 Installation and construction processes. B1 Use. B2 Maintenance. B3 Repair. B4 Substitution. B5 Rehabilitation. B6 Operational energy use. B7 Operational water use. C1 Deconstruction and demolition. C2 Transportation. C3 Waste management for reuse, recovery and recycling. C4 Fine removal. D Environmental benefits and burdens beyond the system boundary. MND Módulo No Declarado.

Hinged window A70-triple seal, double glazing 4-16Ar-4BE

Table 4. Parameters for the use of resources, waste and output material flows

Parameter	Unit	Life cycle stage														Module D	
		Product stage	Construction Process Stage			Use stage							End of life stage				
		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4		
Use of renewable primary energy excluding renewable primary energy resources used as feedstock	MJ, net calorific value	1,11E+02	4,80E-01	6,44E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,17E-01	1,07E+00	1,67E-01	-1,06E+02	
Use of renewable primary energy used as raw material	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Total use of renewable primary energy (primary energy and renewable primary energy resources used as feedstock)	MJ, net calorific value	1,11E+02	4,80E-01	6,44E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,17E-01	1,07E+00	1,67E-01	-1,06E+02	
Non-renewable primary energy use, excluding non-renewable primary energy resources used as feedstock	MJ, net calorific value	1,83E+03	3,57E+01	7,45E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,35E+01	6,28E+00	8,53E+00	-6,25E+02	
Use of non-renewable primary energy used as raw material	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Total use of non-renewable primary energy (primary energy and renewable primary energy resources used as feedstock)	MJ, net calorific value	1,83E+03	3,57E+01	7,45E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,35E+01	6,28E+00	8,53E+00	-6,25E+02	
Use of secondary materials	kg	4,08E+00	0,00E+00	1,37E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Use of renewable secondary fuels	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Use of non-renewable secondary fuels	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Net use of freshwater resources	m3	1,54E+02	1,54E-01	3,75E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,01E-01	1,21E-01	2,21E-01	-3,87E+01	
Hazardous waste removed	kg	6,28E-02	8,77E-05	3,85E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	5,78E-05	4,46E-06	1,57E-05	7,14E-06	
Non-hazardous waste eliminated	kg	2,74E+01	1,76E+00	2,73E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,16E+00	3,62E+00	2,04E+01	-4,20E+00	
Radioactive waste disposed of	kg	5,37E-03	2,27E-04	1,51E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,50E-04	4,43E-05	4,95E-05	-3,46E-03	
Components for reuse	kg	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Materials for recycling	kg	4,80E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	1,70E+01	0,00E+00	0,00E+00	
Materials for energy recovery (energy recovery)	kg	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	7,60E+00	0,00E+00	0,00E+00	
Exported energy	MJ by energy vector	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	1,66E+02	0,00E+00	0,00E+00	

A1 Supply of raw materials. A2 Transportation. A3 Manufacturing. A4 Transportation. A5 Installation and construction processes. B1 Use. B2 Maintenance. B3 Repair. B4 Substitution. B5 Rehabilitation. B6 Operational energy use. B7 Operational water use. C1 Deconstruction and demolition. C2 Transportation. C3 Waste management for reuse, recovery and recycling. C4 Fine removal. D Environmental benefits and burdens beyond the system boundary. MND Módulo No Declarado.

Hinged window Alcover, triple glazing 4BE-14Ar-6-14Ar-4BE

Table 4. Parameters for the use of resources, waste and output material flows

Parameter	Unit	Life cycle stage														Module D
		Product stage	Construction Process Stage		Use stage							End of life stage				
		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	
Use of renewable primary energy excluding renewable primary energy resources used as feedstock	MJ, net calorific value	1,69E+02	4,92E-01	6,44E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,25E-01	1,06E+00	1,82E-01	-1,36E+02
Use of renewable primary energy used as raw material	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of renewable primary energy (primary energy and renewable primary energy resources used as feedstock)	MJ, net calorific value	1,69E+02	4,92E-01	6,44E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,25E-01	1,06E+00	1,82E-01	-1,36E+02
Non-renewable primary energy use, excluding non-renewable primary energy resources used as feedstock	MJ, net calorific value	1,99E+03	3,66E+01	7,45E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,41E+01	6,20E+00	8,60E+00	-6,94E+02
Use of non-renewable primary energy used as raw material	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of non-renewable primary energy (primary energy and renewable primary energy resources used as feedstock)	MJ, net calorific value	1,99E+03	3,66E+01	7,45E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,41E+01	6,20E+00	8,60E+00	-6,94E+02
Use of secondary materials	kg	4,65E+00	0,00E+00	1,37E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of renewable secondary fuels	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of non-renewable secondary fuels	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Net use of freshwater resources	m3	1,57E+02	1,57E-01	3,75E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,04E-01	1,19E-01	2,26E-01	-4,73E+01
Hazardous waste removed	kg	6,57E-01	8,99E-05	3,85E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	5,93E-05	4,35E-06	1,56E-05	6,57E-03
Non-hazardous waste eliminated	kg	3,02E+01	1,80E+00	2,73E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,19E+00	3,48E+00	2,03E+01	-5,66E+00
Radioactive waste disposed of	kg	1,23E-02	2,33E-04	1,51E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,54E-04	4,38E-05	4,92E-05	-3,89E-03
Components for reuse	kg	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	5,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	1,83E+01	0,00E+00	0,00E+00
Materials for energy recovery (energy recovery)	kg	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	7,47E+00	0,00E+00	0,00E+00
Exported energy	MJ by energy vector	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	1,62E+02	0,00E+00	0,00E+00

A1 Supply of raw materials. A2 Transportation. A3 Manufacturing. A4 Transportation. A5 Installation and construction processes. B1 Use. B2 Maintenance. B3 Repair. B4 Substitution. B5 Rehabilitation. B6 Operational energy use. B7 Operational water use. C1 Deconstruction and demolition. C2 Transportation. C3 Waste management for reuse, recovery and recycling. C4 Fine removal. D Environmental benefits and burdens beyond the system boundary. MND Módulo No Declarado.

Hinged window A84, triple glazing 4BE-18Ar-4-18Ar-4

Table 4. Parameters for the use of resources, waste and output material flows

Parameter	Unit	Life cycle stage														Module D	
		Product stage	Construction Process Stage			Use stage							End of life stage				
			A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3		C4
Use of renewable primary energy excluding renewable primary energy resources used as feedstock	MJ, net calorific value	1,16E+02	4,75E-01	6,44E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,13E-01	1,05E+00	1,66E-01	-1,18E+02	
Use of renewable primary energy used as raw material	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Total use of renewable primary energy (primary energy and renewable primary energy resources used as feedstock)	MJ, net calorific value	1,16E+02	4,75E-01	6,44E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,13E-01	1,05E+00	1,66E-01	-1,18E+02	
Non-renewable primary energy use, excluding non-renewable primary energy resources used as feedstock	MJ, net calorific value	1,93E+03	3,53E+01	7,45E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,33E+01	5,99E+00	8,17E+00	-7,01E+02	
Use of non-renewable primary energy used as raw material	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Total use of non-renewable primary energy (primary energy and renewable primary energy resources used as feedstock)	MJ, net calorific value	1,93E+03	3,53E+01	7,45E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,33E+01	5,99E+00	8,17E+00	-7,01E+02	
Use of secondary materials	kg	4,21E+00	0,00E+00	1,37E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Use of renewable secondary fuels	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Use of non-renewable secondary fuels	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Net use of freshwater resources	m3	1,61E+02	1,52E-01	3,75E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,00E-01	1,12E-01	2,16E-01	-4,14E+01	
Hazardous waste removed	kg	6,25E-02	8,68E-05	3,85E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	5,72E-05	4,04E-06	1,50E-05	1,85E-04	
Non-hazardous waste eliminated	kg	2,87E+01	1,74E+00	2,73E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,15E+00	3,11E+00	1,89E+01	-4,53E+00	
Radioactive waste disposed of	kg	5,50E-03	2,25E-04	1,51E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,48E-04	4,25E-05	4,71E-05	-3,84E-03	
Components for reuse	kg	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Materials for recycling	kg	4,52E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	1,70E+01	0,00E+00	0,00E+00	
Materials for energy recovery (energy recovery)	kg	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	8,56E+00	0,00E+00	0,00E+00	
Exported energy	MJ by energy vector	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	1,86E+02	0,00E+00	0,00E+00	

A1 Supply of raw materials. A2 Transportation. A3 Manufacturing. A4 Transportation. A5 Installation and construction processes. B1 Use. B2 Maintenance. B3 Repair. B4 Substitution. B5 Rehabilitation. B6 Operational energy use. B7 Operational water use. C1 Deconstruction and demolition. C2 Transportation. C3 Waste management for reuse, recovery and recycling. C4 Fine removal. D Environmental benefits and burdens beyond the system boundary. MND Módulo No Declarado.

Hinged window A84 PH 1.0, triple glazing 4BE-18Ar-4-18Ar-4

Table 4. Parameters for the use of resources, waste and output material flows

Parameter	Unit	Life cycle stage														Module D
		Product stage	Construction Process Stage		Use stage							End of life stage				
		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	
Use of renewable primary energy excluding renewable primary energy resources used as feedstock	MJ, net calorific value	1,21E+02	4,94E-01	6,44E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,26E-01	1,05E+00	1,83E-01	-1,18E+02
Use of renewable primary energy used as raw material	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of renewable primary energy (primary energy and renewable primary energy resources used as feedstock)	MJ, net calorific value	1,21E+02	4,94E-01	6,44E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,26E-01	1,05E+00	1,83E-01	-1,18E+02
Non-renewable primary energy use, excluding non-renewable primary energy resources used as feedstock	MJ, net calorific value	1,99E+03	3,67E+01	7,45E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,42E+01	5,99E+00	8,50E+00	-7,08E+02
Use of non-renewable primary energy used as raw material	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of non-renewable primary energy (primary energy and renewable primary energy resources used as feedstock)	MJ, net calorific value	1,99E+03	3,67E+01	7,45E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,42E+01	5,99E+00	8,50E+00	-7,08E+02
Use of secondary materials	kg	5,14E+00	0,00E+00	1,37E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of renewable secondary fuels	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of non-renewable secondary fuels	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Net use of freshwater resources	m3	1,86E+02	1,58E-01	3,75E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,04E-01	1,12E-01	2,24E-01	-4,65E+01
Hazardous waste removed	kg	6,27E-02	9,02E-05	3,85E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	5,95E-05	4,04E-06	1,54E-05	1,29E-04
Non-hazardous waste eliminated	kg	3,09E+01	1,81E+00	2,73E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,19E+00	3,11E+00	1,93E+01	-4,79E+00
Radioactive waste disposed of	kg	5,69E-03	2,33E-04	1,51E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,54E-04	4,25E-05	4,85E-05	-3,85E-03
Components for reuse	kg	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	4,64E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	1,83E+01	0,00E+00	0,00E+00
Materials for energy recovery (energy recovery)	kg	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	8,58E+00	0,00E+00	0,00E+00
Exported energy	MJ by energy vector	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	1,87E+02	0,00E+00	0,00E+00

A1 Supply of raw materials. A2 Transportation. A3 Manufacturing. A4 Transportation. A5 Installation and construction processes. B1 Use. B2 Maintenance. B3 Repair. B4 Substitution. B5 Rehabilitation. B6 Operational energy use. B7 Operational water use. C1 Deconstruction and demolition. C2 Transportation. C3 Waste management for reuse, recovery and recycling. C4 Fine removal. D Environmental benefits and burdens beyond the system boundary. MND Módulo No Declarado.

Hinged window A84 PH HI, triple glazed 4BE-18Ar-4-18Ar-4

Table 4. Parameters for the use of resources, waste and output material flows

Parameter	Unit	Life cycle stage														Module D	
		Product stage	Construction Process Stage			Use stage							End of life stage				
			A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3		C4
Use of renewable primary energy excluding renewable primary energy resources used as feedstock	MJ, net calorific value	1,05E+02	4,18E-01	6,44E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,75E-01	1,05E+00	1,13E-01	-1,18E+02	
Use of renewable primary energy used as raw material	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Total use of renewable primary energy (primary energy and renewable primary energy resources used as feedstock)	MJ, net calorific value	1,05E+02	4,18E-01	6,44E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,75E-01	1,05E+00	1,13E-01	-1,18E+02	
Non-renewable primary energy use, excluding non-renewable primary energy resources used as feedstock	MJ, net calorific value	1,79E+03	3,10E+01	7,45E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,04E+01	5,99E+00	7,19E+00	-6,94E+02	
Use of non-renewable primary energy used as raw material	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Total use of non-renewable primary energy (primary energy and renewable primary energy resources used as feedstock)	MJ, net calorific value	1,79E+03	3,10E+01	7,45E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,04E+01	5,99E+00	7,19E+00	-6,94E+02	
Use of secondary materials	kg	1,15E+00	0,00E+00	1,37E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Use of renewable secondary fuels	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Use of non-renewable secondary fuels	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Net use of freshwater resources	m3	8,10E+01	1,34E-01	3,75E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	8,79E-02	1,12E-01	1,91E-01	-2,47E+01	
Hazardous waste removed	kg	6,28E-02	7,63E-05	3,85E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	5,02E-05	4,04E-06	1,38E-05	3,63E-04	
Non-hazardous waste eliminated	kg	2,19E+01	1,53E+00	2,73E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,01E+00	3,11E+00	1,75E+01	-3,74E+00	
Radioactive waste disposed of	kg	4,98E-03	1,97E-04	1,51E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,30E-04	4,25E-05	4,31E-05	-3,90E-03	
Components for reuse	kg	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Materials for recycling	kg	4,55E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	1,27E+01	0,00E+00	0,00E+00	
Materials for energy recovery (energy recovery)	kg	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	8,72E+00	0,00E+00	0,00E+00	
Exported energy	MJ by energy vector	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	1,90E+02	0,00E+00	0,00E+00	

A1 Supply of raw materials. A2 Transportation. A3 Manufacturing. A4 Transportation. A5 Installation and construction processes. B1 Use. B2 Maintenance. B3 Repair. B4 Substitution. B5 Rehabilitation. B6 Operational energy use. B7 Operational water use. C1 Deconstruction and demolition. C2 Transportation. C3 Waste management for reuse, recovery and recycling. C4 Fine removal. D Environmental benefits and burdens beyond the system boundary. MND Módulo No Declarado.

Hinged window A84 HO, triple glazing 4BE-16Ar-4-18Ar-4BE

Table 4. Parameters for the use of resources, waste and output material flows

Parameter	Unit	Life cycle stage														Module D
		Product stage	Construction Process Stage		Use stage							End of life stage				
		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	
Use of renewable primary energy excluding renewable primary energy resources used as feedstock	MJ, net calorific value	1,21E+02	4,96E-01	6,44E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,27E-01	1,06E+00	1,72E-01	-1,24E+02
Use of renewable primary energy used as raw material	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of renewable primary energy (primary energy and renewable primary energy resources used as feedstock)	MJ, net calorific value	1,21E+02	4,96E-01	6,44E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,27E-01	1,06E+00	1,72E-01	-1,24E+02
Non-renewable primary energy use, excluding non-renewable primary energy resources used as feedstock	MJ, net calorific value	2,03E+03	3,68E+01	7,45E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,43E+01	6,18E+00	8,88E+00	-7,33E+02
Use of non-renewable primary energy used as raw material	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of non-renewable primary energy (primary energy and renewable primary energy resources used as feedstock)	MJ, net calorific value	2,03E+03	3,68E+01	7,45E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,43E+01	6,18E+00	8,88E+00	-7,33E+02
Use of secondary materials	kg	3,93E+00	0,00E+00	1,37E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of renewable secondary fuels	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of non-renewable secondary fuels	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Net use of freshwater resources	m3	1,56E+02	1,58E-01	3,75E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,05E-01	1,18E-01	2,27E-01	-4,05E+01
Hazardous waste removed	kg	6,27E-02	9,05E-05	3,85E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	5,97E-05	4,32E-06	1,66E-05	1,94E-04
Non-hazardous waste eliminated	kg	2,91E+01	1,81E+00	2,73E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,20E+00	3,45E+00	2,03E+01	-4,61E+00
Radioactive waste disposed of	kg	5,70E-03	2,34E-04	1,51E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,55E-04	4,37E-05	5,17E-05	-4,06E-03
Components for reuse	kg	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	4,65E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	1,71E+01	0,00E+00	0,00E+00
Materials for energy recovery (energy recovery)	kg	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	9,04E+00	0,00E+00	0,00E+00
Exported energy	MJ by energy vector	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	1,98E+02	0,00E+00	0,00E+00

A1 Supply of raw materials. A2 Transportation. A3 Manufacturing. A4 Transportation. A5 Installation and construction processes. B1 Use. B2 Maintenance. B3 Repair. B4 Substitution. B5 Rehabilitation. B6 Operational energy use. B7 Operational water use. C1 Deconstruction and demolition. C2 Transportation. C3 Waste management for reuse, recovery and recycling. C4 Fine removal. D Environmental benefits and burdens beyond the system boundary. MND Módulo No Declarado.

Hinged window A84 PH HO, triple glazing 4BE-16Ar-4-18Ar-4BE

Table 4. Parameters for the use of resources, waste and output material flows

Parameter	Unit	Life cycle stage														Module D	
		Product stage	Construction Process Stage			Use stage							End of life stage				
		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4		
Use of renewable primary energy excluding renewable primary energy resources used as feedstock	MJ, net calorific value	1,22E+02	4,97E-01	6,44E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,27E-01	1,06E+00	1,72E-01	-1,24E+02	
Use of renewable primary energy used as raw material	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Total use of renewable primary energy (primary energy and renewable primary energy resources used as feedstock)	MJ, net calorific value	1,22E+02	4,97E-01	6,44E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,27E-01	1,06E+00	1,72E-01	-1,24E+02	
Non-renewable primary energy use, excluding non-renewable primary energy resources used as feedstock	MJ, net calorific value	2,03E+03	3,69E+01	7,45E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,43E+01	6,18E+00	8,92E+00	-7,38E+02	
Use of non-renewable primary energy used as raw material	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Total use of non-renewable primary energy (primary energy and renewable primary energy resources used as feedstock)	MJ, net calorific value	2,03E+03	3,69E+01	7,45E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,43E+01	6,18E+00	8,92E+00	-7,38E+02	
Use of secondary materials	kg	3,93E+00	0,00E+00	1,37E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Use of renewable secondary fuels	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Use of non-renewable secondary fuels	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Net use of freshwater resources	m3	1,56E+02	1,59E-01	3,75E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,05E-01	1,18E-01	2,27E-01	-4,06E+01	
Hazardous waste removed	kg	6,26E-02	9,07E-05	3,85E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	5,98E-05	4,32E-06	1,67E-05	1,92E-04	
Non-hazardous waste eliminated	kg	2,91E+01	1,82E+00	2,73E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,20E+00	3,45E+00	2,03E+01	-4,63E+00	
Radioactive waste disposed of	kg	5,71E-03	2,35E-04	1,51E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,55E-04	4,37E-05	5,20E-05	-4,08E-03	
Components for reuse	kg	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Materials for recycling	kg	4,61E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	1,71E+01	0,00E+00	0,00E+00	
Materials for energy recovery (energy recovery)	kg	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	9,09E+00	0,00E+00	0,00E+00	
Exported energy	MJ by energy vector	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	1,99E+02	0,00E+00	0,00E+00	

A1 Supply of raw materials. A2 Transportation. A3 Manufacturing. A4 Transportation. A5 Installation and construction processes. B1 Use. B2 Maintenance. B3 Repair. B4 Substitution. B5 Rehabilitation. B6 Operational energy use. B7 Operational water use. C1 Deconstruction and demolition. C2 Transportation. C3 Waste management for reuse, recovery and recycling. C4 Fine removal. D Environmental benefits and burdens beyond the system boundary. MND Módulo No Declarado.

Table 5. Kg of biogenic carbon

Packaging	0,064kg C
Product	0 kg

3.4. Recommendations of this DAP

Comparison of construction products can only be made under the same functional unit and once the product is performing its function within the building throughout its complete life cycle.

This EPD does not contain comparative claims and its results are not comparable with other EPDs when these do not comply with the requirements set out in EN 15804. On the other hand, EPDs with the same product category, but from different programmes, may not be comparable. This EPD is representative of the products covered.

The holder of this EPD is responsible for its content and for keeping the supporting documentation on which the statements and data contained therein are based for the period of validity of this Declaration.

3.5. Cutting rules

All relevant processes within the analysed system have been included and 100% of the components and energy flows used in the analysed systems have been considered.

Excluded from the analysis were the construction and production of capital goods, the production of packaging of raw materials used in the manufacture of PVC profiles, packaging of system components and glazing, maintenance operations and other production support activities and employee travel.

3.6. Additional environmental information

The product does not contain substances included in the Candidate List of Substances of Very High Concern for Authorisation of the European Chemicals Agency.

3.7. Other data

For all processes included in the LCA study, the Ecoinvent 3.8 database was used and evaluated with the OpenLCA tool. The LCA study was carried out using a model based on excel templates. For the life cycle impact assessment (LCIA) of the mentioned processes, the characterisation factors of the EC-JRC EF 2.0 method available at <http://eplca.jrc.ec.europa.eu/LCDN/developerEF.xhtml> were used.

Specific databases have been used in accordance with the electricity mix data provided by the marketer that supplies electricity to CORTIZO. For the processes of transport, production of raw materials or end of life, databases were chosen according to their technological and geographical representativeness of the real process. The technological and geographical representativeness of all the processes included in the LCA is guaranteed, including those of greatest relevance to the final result. To this end, a data quality analysis has been carried out in accordance with the methodology set out in Annex E of the UNE EN 15804 standard (table E1). For example, the technological representativeness of the processes contributing 92% of the total value of the climate change impact category has been rated as very good or good according to the above methodology. The environmental databases used are less than 3 years old.

4. ADDITIONAL TECHNICAL INFORMATION AND SCENARIOS

4.1. Transportation from the factory to the construction site (A4)

Parameter	Parameter expressed per functional unit
Type and fuel consumption, type of vehicle used for transportation	Diesel, rigid truck 16-32 tonnes, EURO6 class
Distance	300 km
Capacity utilization (including empty return)	Between 25% and 50%, depending on the scale of the work
Apparent density of transported product	Average, 467 kg/m ³
Useful capacity factor (1, <1 or >1 for products that are packed compressed or nested)	1

4.2. Installation processes (A5)

Parameter	Parameter expressed per functional unit
Auxiliary materials for construction (specifying each material)	Low carbon steel plates and bolts, 0.275 kg
Water use	No
Use of other resources	No
Quantitative description of the type of energy (regional mix) and consumption during the installation process	No energy use
Waste of materials in the work before the treatment of waste, generated by the installation of the product (specify by type)	No
Material outputs (specified by type) as a result of waste treatment on the building site. For example: collection for recycling, energy recovery, disposal (specified by route)	Packaging sent for recycling, cardboard 0.088 kg and plastic 0.115 kg
Direct emissions to air, soil and water	No occurrence

4.3. Reference life (B1)

Undeclared

4.4. Maintenance (B2), Repair (B3), Substitution (B4), or Rehabilitation (B5)

Maintenance (B2)

Undeclared

Repair (B3)

Undeclared

Substitution (B4)

Undeclared

Rehabilitation (B5)

Undeclared

4.6. Use of energy (B6) and water (B7) in service

Undeclared

4.7. End of life (C1-C4)

Series / Models	Process				
	Collection processes (specified by types)	Recovery systems (specified by type)			Elimination
	kg collected with mixed construction waste	kg for reuse	kg for recycling	kg for energy recovery	kg for final disposal
Hinged window A70, double glazing 4-16Ar-4BE	34.6	0	14.5	7.45	12.6
Hinged window A70-triple seal, double glazing 4-16Ar-4BE	34.7	0	14.5	7.44	12.8
Hinged window Alcover, double glazed 4-16Ar-4BE	36.1	0	15.9	7.31	12.9
Hinged window A84, double glazed 4-16Ar-4BE	36.6	0	15.3	8.30	13.1
Hinged window A84 PH 1.0, double glazing 4-16Ar-4BE	38.3	0	16.6	8.32	13.4
Hinged window A84 PH HI, double glazing 4-16Ar-4BE	31.4	0	11.0	8.46	11.9
Hinged window A84 HO, double glazing 4-16Ar-4BE	37.9	0	15.2	8.79	13.9
Hinged window A84 PH HO, double glazed 4-16Ar-4BE	38.0	0	15.2	8.85	14.0
Sliding window C70, double glazing 4-16Ar-4BE	35.7	0	15.9	7.19	12.7

Series / Models	Process				
	Collection processes (specified by types)	Recovery systems (specified by type)			Elimination
	kg collected with mixed construction waste	kg for reuse	kg for recycling	kg for energy recovery	kg for final disposal
Hinged window A70, triple glazing 4BE-14Ar-6-14Ar-4BE	42.7	0	17.0	7.60	18.1
Hinged window A70-triple seal, double glazing 4-16Ar-4BE	43.1	0	17.0	7.60	18.6
Hinged window Alcover, triple glazing 4BE-14Ar-6-14Ar-4BE	44.2	0	18.3	7.47	18.5
Hinged window A84, triple glazing 4BE-18Ar-4-18Ar-4	42.7	0	17.0	8.56	17.2
Hinged window A84 PH 1.0, triple glazing 4BE-18Ar-4-18Ar-4	44.4	0	18.3	8.58	17.5
Hinged window A84 PH HI, triple glazed 4BE-18Ar-4-18Ar-4	37.4	0	12.7	8.72	16.0
Hinged window A84 HO, triple glazing 4BE-16Ar-4-18Ar-4BE	44.5	0	17.1	9.04	18.4
Hinged window A84 PH HO, triple glazing 4BE-16Ar-4-18Ar-4BE	44.6	0	17.1	9.09	18.5
Assumptions for scenario development	The scenarios have been described in modules C3 and D of section 2. The default values of the UNE EN 17213:2020 standard have been chosen.				

5. ADDITIONAL INFORMATION

The information stated in the EPD is based on the specifications of the LCA report for EPD of CORTIZO products: Windows and exterior doors.

6. RCP AND VERIFICATION

This statement is based on Document

UNE-EN 17213, Product category rules for windows and pedestrian doors Windows and doors

Independent verification of the declaration and data, in accordance with ISO 14025 and IN UNE-EN 17213,



Externa

Third party Verifier

Eva Martínez Herrero

Accredited by the administrator of the DAPcons®
Program



Verification date:

30/11/2022

References

- General Programme Instructions of The International EPD® System. Version 3.01, 2019-09-18.
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- Ecoinvent Database. <http://www.ecoinvent.org/database/>.
- K. Peeters, C. Spirinckx, LOT 32 / Ecodesign of Window Products Task 2-Market Analysis, 2015.
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