

ENVIRONMENTAL PRODUCT DECLARATION

In accordance with ISO 14025 and EN 15804+A2



In Alpha section – PVC window 1,23m x 1,48m

Alphacan SRL

Program Operator : EPDIItaly

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ALPHACAN
INNOVATIVE PROFILES & SOLUTIONS

INTRODUCTION

1. FOREWORD

This document is an Environmental Product Declaration. The information contained in the declaration is provided under the responsibility of the declarant, as per EN 15804+A2.

Any use, in whole or in part, must at least be accompanied by the full reference of the original declaration: "Producer, Full title, Date of publication". For any further information concerning the establishment of the EPD or the products covered by it, please contact the declarant.

The EN 15804+A2 standard is used as PCR.

2. READING GUIDE

The results of the LCIA are displayed in scientific form with three significant figures.

Example: 1.65E+02 is read as 1.65x10²

The following rules apply:

- Zero values are represented by a zero
- Abbreviations : "N/A" Not Applicable, "FU" Functional Unit, "LCA" Life Cycle Analysis, Volatile Organic Compound, "EPD" Environmental Product Declaration, "LCIA" Life Cycle Impact Assessment, "PCR" Product Category Rule
- Units: kilogram "kg", gram "g", kilowatt-hour "kWh", megajoule "MJ", square meter "m²", kelvin "K", watt "W", kilometre "km", millimetre "mm", meter "m", cubic meter "m³"

3. PRECAUTION IN USING THE FDES FOR PRODUCT COMPARISON

EPD of construction products may not be comparable if they do not comply with EN 15804+A2.

EN 15804+A2 paragraph § 5.3 *Comparability of EPD for construction products* defines conditions for comparison of construction products based on the information provided in the EPD:

"Consequently, comparison of the environmental performance of construction products using the EPD information shall be based on the product's use in and its impacts on the building, and shall consider the complete life cycle (all information modules)"

Note 1: EPD that are not in a building context are not tools to compare construction products and construction services.

Note 2: For the sustainability assessment of buildings comparisons of the environmental aspects and impacts need to be undertaken in conjunction with the social and economic aspects and impacts related to the building.

Note 3: For the interpretation of a comparison, benchmarks or reference values are needed. This standard does not set benchmarks or reference values.

1. GENERAL INFORMATION

Declaration Owner name and adress	Alphacan SRL VIA S. SISTO, 24, 38062 ARCO TN, ITALIE
Corporate contact	Marco Segato: marco.segato@alphacan.it
Company presentation	ALPHACAN, founded in 1962, is a group specialized in PVC profiles for building applications (profiles for windows, doors, shutters, facade claddings) but also for tailor-made applications dedicated to many other industrial sectors.
Covered production sites	Alphacan french site of Sablé-sur-Sarthe (ZI de, L'Aubrée, 72300 Sablé-sur-Sarthe) Profialis french site of Clerval (298 grande voie, 25340 Pays-de-Clerval) Alphacan italian site of Arco (Via S. Sisto, 24, 38062 Arco TN) All windows manufacturing sites assembling Alphacan PVC sections
EPD type	"From cradle to grave" (whole life cycle, including module D) Specific product EPD
CPC code	42120 "Doors, windows and their frames and thresholds for doors, of iron, steel or aluminium"
Covered products and validity framework	The covered products are the 1,23m*1,48m PVC windows made of In Alpha PVC sections with double or triple Glazing (8 or 12mm glass thickness) and double leaf. Six specific products (or window configurations) are covered in this EPD, as listed below :

Code	Specific product	Comments
F1	In Alpha - White PVC Double glazing	Standard finishing of PVC
F2	In Alpha - Colored PVC Double glazing	Application of a colored film (PMMA) on PVC sections
F3	In Alpha - Aluminium top Double glazing	Aluminim top finishing
F4	In Alpha - White PVC Triple glazing	Standard finishing of PVC
F5	In Alpha - Colored PVC Triple glazing	Application of a colored film on PVC sections
F6	In Alpha - Aluminium top Triple glazing	Aluminim top finish

DEMONSTRATION OF VERIFICATION

Independent external verification according to EPD ITALY program <https://www.epditaly.it/> (environmental declaration program according to ISO 14025:2010)

NF EN 15804+A2 serves as the core PCR	
Independent verification of the declaration and data, according to EN ISO 14025:2010 <input type="checkbox"/> internal <input checked="" type="checkbox"/> external	
Third party verifier:	Roberta Mongillo - ICMQ Via G. De Castillia, 10 20124 MILANO - ITALIA
registration number:	EPDITALY0510
Date of 1 st issue:	01/12/2023
Date of last update:	01/12/2023
Verification date:	01/12/2023
Expiry date:	01/12/2028

2. DESCRIPTION OF THE FUNCTIONAL UNIT AND THE PRODUCT

Functional unit Closing a permanent opening of 1m² for a reference service life of 30 years.

Unit m² (square meter)

Main performance Thermal insulation $U_w \leq 1,3 \text{ W/ m}^2\cdot\text{K}$ for double glazing
Thermal insulation $U_w \leq 1,1 \text{ W/ m}^2\cdot\text{K}$ for triple glazing

Description of use The windows covered by this EPD are permanent windows, intended for all kinds of buildings: residential, offices, commercial, schools, hospitals, etc.

Products composition	Window mass details (kg/FU)	F1	F2	F3	F4	F5	F6
Window		31,60	31,90	33,86	37,09	37,38	39,34
PVC section		11,23	11,23	11,23	11,23	11,23	11,23
Aluminium section		0,00	0,00	2,26	0,00	0,00	2,26
Steel section		6,38	6,38	6,38	6,38	6,38	6,38
Colored film (PMMA)		0,00	0,30	0,00	0,00	0,30	0,00
Glazing beads		0,71	0,71	0,71	0,62	0,62	0,62
Glazing		11,14	11,14	11,14	16,71	16,71	16,71
Fittings		2,03	2,03	2,03	2,03	2,03	2,03
Injected PVC pieces		0,11	0,11	0,11	0,11	0,11	0,11
Packaging		4,61	4,61	4,61	4,61	4,61	4,61
Pallet		4,58	4,58	4,58	4,58	4,58	4,58
Plastic film		0,001	0,001	0,001	0,001	0,001	0,001
Cardboard		0,03	0,03	0,03	0,03	0,03	0,03
Polystyrene		0,01	0,01	0,01	0,01	0,01	0,01
Installation accessories		0,61	0,61	0,61	0,61	0,61	0,61
Draughtproofing foam		0,01	0,01	0,01	0,01	0,01	0,01
Sealant		0,16	0,16	0,16	0,16	0,16	0,16
Steel bindings		0,44	0,44	0,44	0,44	0,44	0,44

Technical features not included in the functional unit

Glazing type	Thermal performance (W/m².K)	Acoustic performance (dB)	Air permeability	Water proof	Wind resistance
Double glazing (Ug 1,1 W/m ² K)	1,3	44 maximum (depends on glass composition and quality)	4	E750	C3
Triple glazing (Ug 0,6 W/m ² K)	1,1	44 maximum (depends on glass composition and quality)	4	E750	C3

Content statement The product type does not contain more than 0.1% by mass of a substance classified as a substance of very high concern (SVHC) according to the candidate list provided by Annex XIV of REACH regulation.

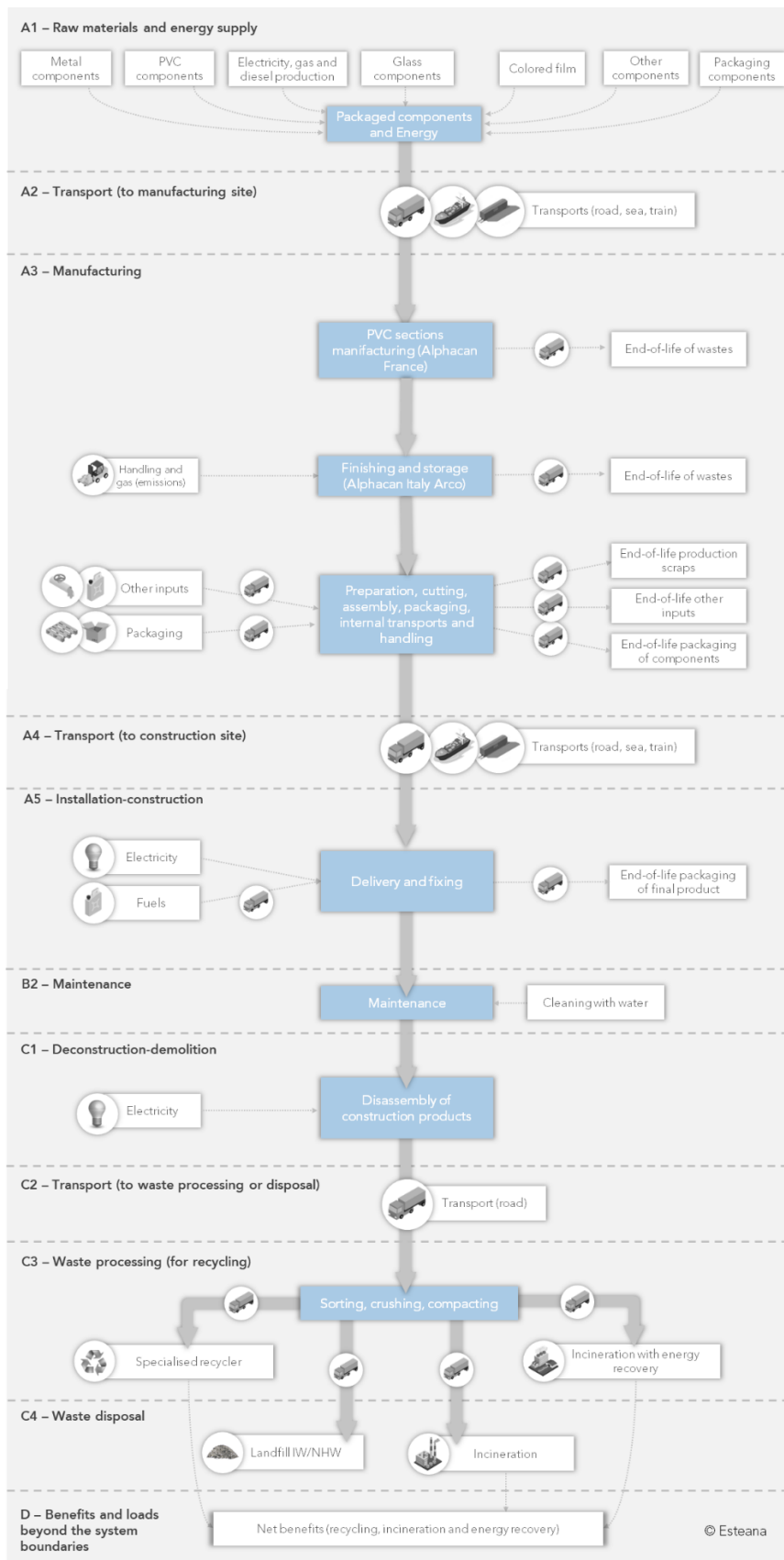
Evidence of suitability for use Product standard: EN 14351-1+A2
The product certification is recognized by Accredia as a scheme for the accreditation of certification bodies in compliance with the UNI CEI EN ISO/IEC 17065 standard.

Distribution circuit BtoB and BtoC

INFORMATION ON STORED BIOGENIC CARBONE AT THE GATE

Stored biogenic carbon (at the factory gate)	Value (per functional unit)
Stored biogenic carbon in the product	0 kg C /m ²
Stored biogenic carbon in the product's packaging:	1,9 kg C /m ²
<i>Note: 1 kg of biogenic carbon implies 44/12 kg of CO₂</i>	

3. LIFE STAGES, SCENARIOS AND ADDITIONAL INFORMATION



Note: this diagram is generic, report to product description and main constituents for specific details.

DESCRIPTION OF THE SYSTEM BOUNDARY (X = INCLUDED IN LCA; MND = MODULE OR INDICATOR NOT DECLARED; MNR = MODULE NOT RELEVANT)																	
Product stage			Construction process stage		Use stage							End of life stage				Benefits and loads beyond the system boundaries	
Raw material supply	Transport	Manufacturing	Transport	Construction-installation process	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction, demolition	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	X	X	X	X	X	X	X	X	X	X	X	X	

PRODUCT STAGE, A1-A3

Alphacan is specialized in the manufacturing of PVC sections and designs its own PVC windows for the construction market.

The PVC sections are manufactured in France at the manufacturing sites of Sablé-sur-sarthe for “In Alpha” and “Prestigio”, while the “Extreme” range is manufactured at Clerval.

The PVC sections are then transported to the Alphacan Italian manufacturing site of Arco for storage or for a finishing process (colored film application). The manufacturing site of Arco stores the main components like PVC sections, steel sections, and aluminium sections before sending it to window manufacturers for the final assembly.

For the window assembly, DATA collection has been carried out on window manufacturing sites which represent 51% of Alphacan turnover for the year 2022. DATA has been weighted according to production volumes of each window manufacturer and is related to main components scrap range and supply distance. For electricity consumption only the window manufacturers assembling exclusively Alphacan ranges have been considered (3 manufacturers, approx. 90% representativeness).

A1 – RAW MATERIAL AND ENERGY SUPPLY

- Production and packaging of the raw materials to be supplied to the manufacturer. All processes are included from cradle to gate:
 - For PVC section manufacturing (Alphacan French manufacturing site):
 - Production of PVC
 - Production of compound
 - Production of internal PVC (By-product)
 - Production of Electricity
 - For finishing and storage (Alphacan Italian manufacturing site):
 - Production of Aluminium section
 - Production of steel section
 - Production of colored film
 - Production of injected PVC pieces
 - Production of packaging
 - Production of Electricity
 - Production of natural gas
 - For final product manufacturing (Italian window manufacturers):

- Production of fittings
- Production of Glazing
- Production of packaging
- Production of sealant
- Production of Electricity
- Production of diesel

A2 – TRANSPORT (TO THE PRODUCTION SITE)

- Transportation of all the raw materials and their packaging between their production site and the manufacturing site, for all transport modes (road), including internal transport such as:
 - PVC section supply (from Alphacan FR to Alphacan IT)
 - PVC section supply (from Alphacan IT to window manufacturer)

A3 – MANUFACTURING

- For PVC section manufacturing (Alphacan French manufacturing site):
 - Wastes end of life
- For finishing and storage (Alphacan Italian manufacturing site):
 - Diesel and gas emissions
 - Wastes end of life
- For final product manufacturing (Italian window manufacturers):
 - Components scrap production
 - Components scrap end of life
 - Packaging end of life
 - Packaging production

CONSTRUCTION PROCESS STAGE, A4-A5

A4 – TRANSPORT (TO THE BUILDING SITE)

- Transportation of packaged products from the manufacturing site to the construction site, including potential in-betweens (Wholesaler).

Information of the scenario	Value
Transport from manufacturer to construction site	Delivery share (direct to construction site): 70% Vehicle type: 16-32 tons EURO 6 Loading factor: 100% Empty returns: 100% (global empty runs = 50%) Capacity utilisation (including empty runs): 5,79 tons. Fuel consumption: 0,249 L/km Distance: 50 km Bulk density of transported products: N/A Volume capacity utilisation factor: =1
Transport from manufacturer to wholesaler	Delivery share (direct to construction site): 30% Vehicle type: 16-32 tons EURO 6 Loading factor: 100% Empty returns: 100% (global empty runs = 50%) Capacity utilisation (including empty runs): 5,79 tons. Fuel consumption: 0,249 L/km Distance: 150 km Bulk density of transported products: N/A Volume capacity utilisation factor: =1

Information of the scenario	Value
Transport from wholesaler to construction site	Delivery share (direct to construction site): 30% Vehicle type: 7,5-16 tons EURO 6 Loading factor: 100% Empty returns: 100% (global empty runs = 50%) Capacity utilisation (including empty runs): 3,29 tons. Fuel consumption: 0,187 L/km Distance: 50 km Bulk density of transported products: N/A Volume capacity utilisation factor: =1

A5 – CONSTRUCTION-INSTALLATION PROCESS

- Diesel consumption for internal transport
- Electricity consumption for installation
- Sealant production
- Steel bindings production
- Packaging end of life

Information of the scenario	Unit	F1	F2	F3	F4	F5	F6
Steel bindings	kg/FU	0,443	0,443	0,443	0,443	0,443	0,443
Diesel consumption for internal transport	MJ/FU	0,018	0,018	0,019	0,020	0,020	0,022
Draughtproofing foam	kg/FU	0,006	0,006	0,006	0,006	0,006	0,006
Sealant production	kg/FU	0,163	0,163	0,163	0,163	0,163	0,163
Electricity consumption	kWh/FU	0,006	0,006	0,006	0,006	0,006	0,006
Waste collection and fate - Pallet	kg/FU	Collected mass: 4,57 39% recycled, 21% incinerated, 40% landfilled.					
Waste collection and fate - Cardboard	kg/FU	Collected mass: 0,11 73% recycled, 9% incinerated, 18% landfilled.					
Waste collection and fate – Plastic foil	kg/FU	Collected mass: 0,31 28% recycled, 25% incinerated, 47% landfilled.					
Waste collection and fate – Polystyrene	kg/FU	Collected mass: 0,021 28% recycled, 25% incinerated, 47% landfilled.					

USE STAGE, B1-B7

B2 – MAINTENANCE

- Water consumption for cleaning
- Water treatment
- Lubricating oil

Information of the scenario	Value
Water consumption	0,1 L per m2 and per cleaning operation Cleaning once per month 36L/FU
Lubricating oil consumption	10mg/window/year Lubricating once per year 0,16 kg/FU

B1, B3, B4, B5, B6, B7

- No utilisation inputs during RSL
- No repairing during RSL
- No replacement during RSL
- No renovation during RSL
- No energy and water use during RSL

END OF LIFE STAGE, C1-C4

The PVC window end of life is considered occurring in Italy.

C1 – DE-CONSTRUCTION, DEMOLITION

- Electricity for disassembly.

C2 – TRANSPORT (TO WASTE PROCESSING OR DISPOSAL)

- Transportation to waste processing facility.

C3 – WASTE PROCESSING

- Material sorting (Diesel and electricity consumption)
- Treatment till end of waste status for recycling (transport, shredding, sorting...) for:
 - Aluminium
 - Steel
 - PVC
 - Glazing
- Incineration with energy recovery (R>60%)

C4 – DISPOSAL

- Waste disposal

Information of the scenario		F1	F2	F3	F4	F5	F6
Collection process	Collected mass separately (kg/FU)	32,2	32,2	34,5	37,7	37,7	40,0
Recovery system	kg/FU for re-use	0,0	0,0	0,0	0,0	0,0	0,0
	kg/FU for recycling	14,1	14,1	15,7	15,7	15,7	17,4
	kg/FU for energy recovery	2,5	2,5	2,5	2,5	2,5	2,5
Disposal	kg/FU for incineration	0,0	0,0	0,0	0,0	0,0	0,0
	kg/FU for inert waste disposal	10,0	10,0	10,0	13,9	13,9	13,9
	kg/FU for non-hazardous waste disposal	5,6	5,6	6,2	5,6	5,6	6,2
	kg/FU for hazardous waste disposal	0,0	0,0	0,0	0,0	0,0	0,0

BENEFITS AND LOADS BEYOND THE SYSTEM BOUNDARIES, D

- Net benefits of aluminium, steel, glass, and PVC recycling : $(M_{MR out.} - M_{MR in.}) \cdot (E_{MR after EoW out.} - E_{VM Sub out.} \cdot \frac{Q_{R out.}}{Q_{sub}})$
 - $M_{MR out.}$: amount of material exiting the system that will be recovered (recycled and reused) in a subsequent system.

- $M_{MR\ in.}$: amount of input material to the product system that has been recovered (recycled or reused) from a previous system.
- $E_{MR\ after\ EoW\ out.}$: Transport and recycling process
- $E_{VM\ Sub\ out.} \cdot \frac{Q_{R\ out.}}{Q_{sub}}$: Primary material production
- Heat production benefits from materials incineration: $M_{ER\ out.} \cdot (LHV \cdot X_{ER\ Heat} \cdot E_{SE\ Heat} + LHV \cdot X_{ER\ elec} \cdot E_{SE\ elec})$
 - $M_{ER\ out.}$: amount of material leaving the product system where it has reached the end of waste status before incineration and leaves the product system as secondary fuel
 - $X_{ER\ Heat}$: efficiency of the energy recovery process for heat
 - $E_{SE\ heat}$: Heat production
 - $E_{SE\ elec}$: Electricity production

Recovered materials leaving the system boundaries	Recycling processes beyond system boundaries (loads)	Saved materials / energy (benefits)	F1 (Kg/FU)	F2 (Kg/FU)	F3 (Kg/FU)	F4 (Kg/FU)	F5 (Kg/FU)	F6 (Kg/FU)
Aluminium (recycling)	Transport and remelting	Primary aluminium	0,00	0,00	1,69	0,00	0,00	1,69
PVC (recycling)	Transport and shredding	Primary PVC	4,07	4,07	4,07	4,04	4,04	4,04
Steel (recycling)	Transport and remelting	Primary steel	6,64	6,64	6,64	6,64	6,64	6,64
Glazing (recycling)	Transport and shredding	Primary glazing	3,11	3,11	3,11	4,66	4,66	4,66
Other materials (incineration)	None	Heat (67%) : Biofuel combustion (15%) Gas combustion (70%) Fuel oil combustion (15%) Electricity (33%)	5,25	5,25	5,25	5,21	5,21	5,21

4. INFORMATION FOR THE LIFE CYCLE ASSESSMENT

PCR used	<ul style="list-style-type: none">▪ EN 15804+A2 standard “Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products”▪ EN 17213 (2020) “Windows and doors - Environmental Product Declarations - Product category rules for windows and pedestrian doorsets” <p>“Regulation For the Certification Of recycled/recovered/By-product material content”, ICMQ.</p>
PCR used as an useful reference	<ul style="list-style-type: none">▪ EPDItaly025 : PCR Part B for CONSTRUCTION PRODUCTS AND CONSTRUCTION SERVICES - WINDOWS AND DOORS
System boundaries	<p>System boundaries were determined in compliance with NF EN 15804+A2 and NF EN 15804+A2/CN, especially regarding modularity aspects (processes are affected to the stage in which they occur) and regarding the “polluter pays” principle (waste treatment processes are affected to the processes that generate waste).</p> <p>Included processes for each stage of the life cycle are presented in the life cycle diagram and paragraphs of section 3.</p> <p>By convention, the following processes were considered being beyond the system boundaries:</p> <ul style="list-style-type: none">▪ For stage A3: Lighting of the manufacturing sites, transportation of employees.▪ For all the stages: Manufacturing and maintenance of heavy production tools, and of transportation systems (trucks, roads, electricity pylons, buildings, and heavy equipment on the manufacturing site, etc.). However, some secondary data used in this study may include impacts related to infrastructure. <p>Cut-off criteria were implemented in compliance with standards NF EN 15804+A2 and NF EN 15804+A2/CN (1% per elementary process, 5% per stage, in mass and use of primary energy).</p>
Allocations	<p>Allocation principles of standards NF EN 15804+A2 and NF EN 15804+A2/CN were respected:</p> <ul style="list-style-type: none">▪ Allocation avoided where possible;▪ When the difference in revenue from the co-products is low, allocations are based on physical properties (mass, volume, etc.);▪ In every other case, allocations are based on economic value;▪ Material flows carrying specific inherent properties (e.g. energy content, elementary composition such as carbon content, etc.) are always allocated reflecting the physical flows, irrespective of the allocation chosen for the process. <p>Manufacturing consumptions were allocated physically (by mass and window unit).</p> <p>According to EN 16485, biogenic carbon flows included in components were allocated by mass. However, to simplify the indicator “Climate Change-total” interpretation, the biogenic carbon flows of packaging have been cut-off.</p>
Representativeness	<p>LCI secondary data used in this study originate mostly from the Ecoinvent V3.8 database “Allocation, cut-off, EN 15804”, dated of September 2021. These datasets correspond to processes located in France, Europe, or worldwide. The most relevant data was used in each case, and modifications were made if necessary.</p> <p>Specific LCI data were collected from the manufacturer (production site data, material supply distances, transport distances to the construction site, etc.). Their representativeness is described below:</p> <ul style="list-style-type: none">▪ Geographical coverage: products manufactured and installed in France and Italy▪ Temporal coverage: production and installation in 2022▪ Technological coverage: see. “Description of product” in section 2

5. LIFE CYCLE IMPACT ASSESSMENT RESULTS

The following tables present the LCIA results.

Because of rounding, lines totals may differ from the sum of rounded numbers.

















Note 1: Regarding “use of renewable energy as raw materials” and “use of non-renewable energy as raw materials”, a negative value can occur when materials switch from raw materials to energy carriers.


















Note 2: Additional environmental indicators are not declared (as per Table 4 of EN 15804+A2).

Note 3: For the indicators “abiotic depletion potential for non-fossil resources”, “abiotic depletion potential for fossil resources”, “water (user) deprivation potential, deprivation-weighted water consumption”, the results of these environmental impacts shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.


















ENVIRONMENTAL IMPACT INDICATORS – DETAILED

















#In alpha – White PVC Double glazing

	Unit	Life Cycle Stages																
		A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
 Climate change - total	kg CO ₂ eq./FU	8,36E+01	6,14E+00	9,02E+00	5,46E-01	3,41E+00	0,00E+00	2,14E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,69E-03	5,27E-01	5,08E+00	2,78E+00	-1,14E+01
 Climate change - fossil	kg CO ₂ eq./FU	8,11E+01	6,11E+00	8,73E+00	5,44E-01	1,54E+00	0,00E+00	2,07E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,38E-03	5,25E-01	3,05E+00	4,24E-01	-1,07E+01
 Climate change - biogenic	kg CO ₂ eq./FU	2,42E+00	2,12E-02	2,81E-01	1,96E-03	1,87E+00	0,00E+00	7,14E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,10E-04	1,82E-03	2,02E+00	2,36E+00	-6,63E-01
 Climate change – land use and land use change	kg CO ₂ eq./FU	1,17E-01	2,44E-03	1,21E-02	2,26E-04	1,34E-03	0,00E+00	1,79E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,86E-07	2,10E-04	5,25E-04	3,24E-05	-9,90E-03
 Ozone depletion	kg CFC 11 eq./FU	1,81E-05	1,42E-06	1,24E-06	1,25E-07	1,40E-07	0,00E+00	1,25E-07	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,91E-10	1,22E-07	3,69E-07	3,88E-08	-4,62E-06
 Acidification	mol H ⁺ eq./FU	5,30E-01	1,74E-02	5,80E-02	1,68E-03	7,01E-03	0,00E+00	1,55E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,37E-05	1,49E-03	8,59E-03	9,93E-04	-4,86E-02
 Eutrophication aquatic freshwater	kg P eq./FU	3,24E-02	4,18E-04	2,06E-03	3,84E-05	6,19E-04	0,00E+00	7,88E-05	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	8,13E-07	3,59E-05	2,50E-04	3,91E-05	-4,18E-03
 Eutrophication aquatic marine	kg N eq./FU	9,48E-02	3,55E-03	2,11E-02	3,83E-04	2,66E-03	0,00E+00	4,73E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,31E-06	3,04E-04	2,89E-03	6,06E-03	-8,37E-03
 Eutrophication terrestrial	mol N eq./FU	1,01E+00	3,85E-02	2,23E-01	4,17E-03	1,66E-02	0,00E+00	2,52E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,41E-05	3,30E-03	3,02E-02	3,69E-03	-8,40E-02
 Photochemical ozone formation	kg NMVOC eq./FU	3,04E-01	1,48E-02	6,76E-02	1,49E-03	6,55E-03	0,00E+00	4,29E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	7,03E-06	1,27E-03	8,98E-03	1,66E-03	-2,62E-02
 Depletion of abiotic resources - minerals and metals	kg Sb eq./FU	3,09E-03	2,21E-05	7,30E-05	2,09E-06	1,40E-05	0,00E+00	3,19E-06	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,28E-09	1,90E-06	4,70E-06	3,44E-07	-1,72E-04
 Depletion of abiotic resources - fossil fuels	MJ/FU	1,44E+03	9,10E+01	1,24E+02	8,07E+00	1,91E+01	0,00E+00	9,86E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,71E-02	7,81E+00	2,50E+01	2,69E+00	-2,38E+02
 Water use	m ³ world eq. deprived /FU	4,56E+01	4,26E-01	3,95E+00	3,87E-02	6,50E-01	0,00E+00	1,26E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,27E-04	3,66E-02	3,13E-01	2,70E-02	-5,78E+00
 Use of renewable primary energy excluding renewable primary energy resources used as raw materials	MJ/FU	9,06E+01	1,32E+00	3,64E+01	1,22E-01	1,49E+00	0,00E+00	2,24E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,94E-03	1,14E-01	4,48E-01	1,51E-01	-6,09E+00
 Use of renewable primary energy resources used as raw materials	MJ/FU	1,73E+00	0,00E+00	4,86E+01	0,00E+00	-3,79E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
 Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ/FU	9,23E+01	1,32E+00	8,50E+01	1,22E-01	-3,64E+01	0,00E+00	2,24E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,94E-03	1,14E-01	4,48E-01	1,51E-01	-6,09E+00



















	Unit	Life Cycle Stages																
		A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
 Use of non-renewable primary energy excluding renewable primary energy resources used as raw materials	MJ/FU	1,14E+03	9,10E+01	8,84E+01	8,07E+00	1,63E+01	0,00E+00	9,86E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,71E-02	7,81E+00	2,50E+01	2,69E+00	-2,38E+02
 Use of non-renewable primary energy resources used as raw materials	MJ/FU	2,94E+02	0,00E+00	2,01E+01	0,00E+00	2,84E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-6,91E+01	0,00E+00	0,00E+00
 Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ/FU	1,44E+03	9,10E+01	1,08E+02	8,07E+00	1,91E+01	0,00E+00	9,86E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,71E-02	7,81E+00	-4,41E+01	2,69E+00	-2,38E+02
 Use of secondary material	kg/FU	3,30E+00	3,10E-02	5,25E-01	2,87E-03	2,04E-01	0,00E+00	1,90E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,99E-06	2,66E-03	8,68E-03	8,88E-04	-5,79E+00
 Use of renewable secondary fuels	MJ/FU	5,19E-02	3,41E-04	2,35E+00	3,19E-05	2,41E-03	0,00E+00	1,32E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,42E-08	2,93E-05	8,78E-05	3,03E-05	-1,26E-03
 Use of non-renewable secondary fuels	MJ/FU	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
 Net use of freshwater	m ³ /FU	1,05E+00	1,16E-02	9,24E-02	1,05E-03	1,19E-02	0,00E+00	3,37E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,75E-06	9,96E-04	6,25E-03	3,50E-03	-1,54E-01
 Hazardous waste disposed	kg/FU	1,21E+01	1,04E-01	6,64E-01	9,46E-03	4,15E-01	0,00E+00	1,08E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,87E-04	8,88E-03	1,63E-01	3,82E-03	-2,05E-01
 Non-hazardous waste disposed	kg/FU	1,33E+02	1,84E+00	9,16E+00	1,69E-01	5,53E+00	0,00E+00	2,95E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,78E-03	1,58E-01	4,07E+00	5,68E+00	-1,80E+01
 Radioactive waste disposed	kg/FU	5,30E-03	6,26E-04	4,08E-04	5,54E-05	6,72E-05	0,00E+00	5,68E-05	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,68E-08	5,37E-05	1,50E-04	1,85E-05	-4,48E-04
 Components for re-use	kg/FU	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
 Materials for recycling	kg/FU	1,04E-01	2,85E-04	3,01E+00	2,58E-05	1,99E+00	0,00E+00	2,99E-05	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,06E-07	2,45E-05	1,65E+01	1,02E-05	2,68E+00
 Materials for energy recovery	kg/FU	2,67E-04	2,29E-06	1,15E-05	2,07E-07	3,62E-06	0,00E+00	3,56E-07	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,11E-10	1,97E-07	5,80E-07	6,32E-08	-1,56E-05
 Exported energy - Heat	MJ/FU	6,93E+00	8,24E-02	2,55E+00	7,44E-03	5,70E+00	0,00E+00	1,09E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,59E-04	7,07E-03	5,49E+01	1,05E-02	-7,60E-01
 Exported energy - Electricity	MJ/FU	1,61E+00	1,98E-02	4,17E-01	1,79E-03	1,46E-01	0,00E+00	3,46E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,09E-04	1,70E-03	3,70E+00	3,30E-03	-1,75E-01
 Exported energy - Gas	MJ/FU	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
 Exported energy	MJ/FU	8,54E+00	1,02E-01	2,96E+00	9,23E-03	5,84E+00	0,00E+00	1,44E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,68E-04	8,77E-03	5,86E+01	1,38E-02	-9,35E-01
















#In alpha – Coloured PVC Double glazing

	Unit	Life Cycle Stages																	
		A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	
 Climate change - total	kg CO ₂ eq./FU	8,76E+01	6,17E+00	9,21E+00	5,46E-01	3,41E+00	0,00E+00	2,14E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,69E-03	5,27E-01	5,08E+00	2,78E+00	-1,14E+01
 Climate change - fossil	kg CO ₂ eq./FU	8,49E+01	6,15E+00	8,92E+00	5,44E-01	1,54E+00	0,00E+00	2,07E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,38E-03	5,25E-01	3,05E+00	4,24E-01	-1,07E+01
 Climate change - biogenic	kg CO ₂ eq./FU	2,56E+00	2,14E-02	2,82E-01	1,96E-03	1,87E+00	0,00E+00	7,14E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,10E-04	1,82E-03	2,02E+00	2,36E+00	-6,63E-01
 Climate change – land use and land use change	kg CO ₂ eq./FU	1,17E-01	2,46E-03	1,21E-02	2,26E-04	1,34E-03	0,00E+00	1,79E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,86E-07	2,10E-04	5,25E-04	3,24E-05	-9,90E-03
 Ozone depletion	kg CFC 11 eq./FU	1,83E-05	1,42E-06	1,24E-06	1,25E-07	1,40E-07	0,00E+00	1,25E-07	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,91E-10	1,22E-07	3,69E-07	3,88E-08	-4,62E-06
 Acidification	mol H+ eq./FU	5,51E-01	1,75E-02	5,91E-02	1,68E-03	7,01E-03	0,00E+00	1,55E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,37E-05	1,49E-03	8,59E-03	9,93E-04	-4,86E-02
 Eutrophication aquatic freshwater	kg P eq./FU	3,30E-02	4,20E-04	2,08E-03	3,84E-05	6,19E-04	0,00E+00	7,88E-05	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	8,13E-07	3,59E-05	2,50E-04	3,91E-05	-4,18E-03
 Eutrophication aquatic marine	kg N eq./FU	9,76E-02	3,56E-03	2,12E-02	3,83E-04	2,66E-03	0,00E+00	4,73E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,31E-06	3,04E-04	2,89E-03	6,06E-03	-8,37E-03
 Eutrophication terrestrial	mol N eq./FU	1,03E+00	3,87E-02	2,24E-01	4,17E-03	1,66E-02	0,00E+00	2,52E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,41E-05	3,30E-03	3,02E-02	3,69E-03	-8,40E-02
 Photochemical ozone formation	kg NMVOC eq./FU	3,16E-01	1,49E-02	6,84E-02	1,49E-03	6,55E-03	0,00E+00	4,29E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	7,03E-06	1,27E-03	8,98E-03	1,66E-03	-2,62E-02
 Depletion of abiotic resources - minerals and metals	kg Sb eq./FU	3,09E-03	2,22E-05	7,32E-05	2,09E-06	1,40E-05	0,00E+00	3,19E-06	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,28E-09	1,90E-06	4,70E-06	3,44E-07	-1,72E-04
 Depletion of abiotic resources - fossil fuels	MJ/FU	1,50E+03	9,15E+01	1,27E+02	8,07E+00	1,91E+01	0,00E+00	9,86E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,71E-02	7,81E+00	2,50E+01	2,69E+00	-2,38E+02
 Water use	m ³ world eq. deprived /FU	4,62E+01	4,28E-01	3,99E+00	3,87E-02	6,50E-01	0,00E+00	1,26E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,27E-04	3,66E-02	3,13E-01	2,70E-02	-5,78E+00
 Use of renewable primary energy excluding renewable primary energy resources used as raw materials	MJ/FU	9,21E+01	1,33E+00	3,65E+01	1,22E-01	1,49E+00	0,00E+00	2,24E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,94E-03	1,14E-01	4,48E-01	1,51E-01	-6,09E+00
 Use of renewable primary energy resources used as raw materials	MJ/FU	1,73E+00	0,00E+00	4,86E+01	0,00E+00	-3,79E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
 Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ/FU	9,38E+01	1,33E+00	8,51E+01	1,22E-01	-3,64E+01	0,00E+00	2,24E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,94E-03	1,14E-01	4,48E-01	1,51E-01	-6,09E+00
 Use of non-renewable primary energy excluding renewable primary energy resources used as raw materials	MJ/FU	1,19E+03	9,15E+01	9,08E+01	8,07E+00	1,63E+01	0,00E+00	9,86E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,71E-02	7,81E+00	2,50E+01	2,69E+00	-2,38E+02



















	Unit	Life Cycle Stages																
		A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
 Use of non-renewable primary energy resources used as raw materials	MJ/FU	3,02E+02	0,00E+00	2,06E+01	0,00E+00	2,84E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-6,91E+01	0,00E+00	0,00E+00
 Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ/FU	1,50E+03	9,15E+01	1,11E+02	8,07E+00	1,91E+01	0,00E+00	9,86E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,71E-02	7,81E+00	-4,41E+01	2,69E+00	-2,38E+02
 Use of secondary material	kg/FU	3,30E+00	3,11E-02	5,25E-01	2,87E-03	2,04E-01	0,00E+00	1,90E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,99E-06	2,66E-03	8,68E-03	8,88E-04	-5,79E+00
 Use of renewable secondary fuels	MJ/FU	5,59E-02	3,43E-04	2,35E+00	3,19E-05	2,41E-03	0,00E+00	1,32E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,42E-08	2,93E-05	8,78E-05	3,03E-05	-1,26E-03
 Use of non-renewable secondary fuels	MJ/FU	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
 Net use of freshwater	m ³ /FU	1,07E+00	1,17E-02	9,34E-02	1,05E-03	1,19E-02	0,00E+00	3,37E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,75E-06	9,96E-04	6,25E-03	3,50E-03	-1,54E-01
 Hazardous waste disposed	kg/FU	1,22E+01	1,04E-01	6,67E-01	9,46E-03	4,15E-01	0,00E+00	1,08E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,87E-04	8,88E-03	1,63E-01	3,82E-03	-2,05E-01
 Non-hazardous waste disposed	kg/FU	1,35E+02	1,85E+00	9,19E+00	1,69E-01	5,53E+00	0,00E+00	2,95E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,78E-03	1,58E-01	4,07E+00	5,68E+00	-1,80E+01
 Radioactive waste disposed	kg/FU	5,35E-03	6,30E-04	4,09E-04	5,54E-05	6,72E-05	0,00E+00	5,68E-05	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,68E-08	5,37E-05	1,50E-04	1,85E-05	-4,48E-04
 Components for re-use	kg/FU	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
 Materials for recycling	kg/FU	1,04E-01	2,87E-04	3,01E+00	2,58E-05	1,99E+00	0,00E+00	2,99E-05	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,06E-07	2,45E-05	1,65E+01	1,02E-05	2,68E+00
 Materials for energy recovery	kg/FU	2,67E-04	2,30E-06	1,15E-05	2,07E-07	3,62E-06	0,00E+00	3,56E-07	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,11E-10	1,97E-07	5,80E-07	6,32E-08	-1,56E-05
 Exported energy - Heat	MJ/FU	7,17E+00	8,28E-02	2,55E+00	7,44E-03	5,70E+00	0,00E+00	1,09E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,59E-04	7,07E-03	5,49E+01	1,05E-02	-7,60E-01
 Exported energy - Electricity	MJ/FU	1,67E+00	1,99E-02	4,17E-01	1,79E-03	1,46E-01	0,00E+00	3,46E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,09E-04	1,70E-03	3,70E+00	3,30E-03	-1,75E-01
 Exported energy - Gas	MJ/FU	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
 Exported energy	MJ/FU	8,84E+00	1,03E-01	2,97E+00	9,23E-03	5,84E+00	0,00E+00	1,44E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,68E-04	8,77E-03	5,86E+01	1,38E-02	-9,35E-01
















#In alpha – Aluminium top Double glazing

	Unit	Life Cycle Stages																	
		A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	
 Climate change - total	kg CO ₂ eq./FU	1,04E+02	6,36E+00	1,03E+01	5,80E-01	3,42E+00	0,00E+00	2,14E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,69E-03	5,64E-01	5,18E+00	2,79E+00	-2,67E+01
 Climate change - fossil	kg CO ₂ eq./FU	1,01E+02	6,34E+00	9,94E+00	5,78E-01	1,54E+00	0,00E+00	2,07E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,38E-03	5,61E-01	3,16E+00	4,32E-01	-2,57E+01
 Climate change - biogenic	kg CO ₂ eq./FU	3,00E+00	2,20E-02	3,18E-01	2,08E-03	1,87E+00	0,00E+00	7,14E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,10E-04	1,95E-03	2,03E+00	2,36E+00	-7,24E-01
 Climate change – land use and land use change	kg CO ₂ eq./FU	5,28E-01	2,53E-03	3,68E-02	2,40E-04	1,34E-03	0,00E+00	1,79E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,86E-07	2,24E-04	5,49E-04	3,48E-05	-2,95E-01
 Ozone depletion	kg CFC 11 eq./FU	2,02E-05	1,47E-06	1,37E-06	1,33E-07	1,40E-07	0,00E+00	1,25E-07	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,91E-10	1,30E-07	3,90E-07	4,09E-08	-5,73E-06
 Acidification	mol H+ eq./FU	6,51E-01	1,80E-02	6,54E-02	1,78E-03	7,01E-03	0,00E+00	1,55E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,37E-05	1,59E-03	9,19E-03	1,05E-03	-1,51E-01
 Eutrophication aquatic freshwater	kg P eq./FU	4,39E-02	4,34E-04	2,75E-03	4,08E-05	6,19E-04	0,00E+00	7,88E-05	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	8,13E-07	3,84E-05	2,60E-04	4,05E-05	-1,01E-02
 Eutrophication aquatic marine	kg N eq./FU	1,13E-01	3,68E-03	2,22E-02	4,07E-04	2,67E-03	0,00E+00	4,73E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,31E-06	3,26E-04	3,10E-03	6,08E-03	-2,33E-02
 Eutrophication terrestrial	mol N eq./FU	1,17E+00	3,99E-02	2,33E-01	4,43E-03	1,66E-02	0,00E+00	2,52E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,41E-05	3,54E-03	3,25E-02	3,94E-03	-2,30E-01
 Photochemical ozone formation	kg NMVOC eq./FU	3,61E-01	1,53E-02	7,12E-02	1,58E-03	6,55E-03	0,00E+00	4,29E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	7,03E-06	1,36E-03	9,64E-03	1,74E-03	-7,49E-02
 Depletion of abiotic resources - minerals and metals	kg Sb eq./FU	3,19E-03	2,29E-05	7,91E-05	2,22E-06	1,40E-05	0,00E+00	3,19E-06	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,28E-09	2,03E-06	4,91E-06	3,87E-07	1,06E-04
 Depletion of abiotic resources - fossil fuels	MJ/FU	1,75E+03	9,44E+01	1,43E+02	8,57E+00	1,91E+01	0,00E+00	9,86E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,71E-02	8,36E+00	2,65E+01	2,86E+00	-4,27E+02
 Water use	m ³ world eq. deprived /FU	8,09E+01	4,42E-01	6,07E+00	4,11E-02	6,50E-01	0,00E+00	1,26E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,27E-04	3,91E-02	3,19E-01	3,18E-02	-2,36E+01
 Use of renewable primary energy excluding renewable primary energy resources used as raw materials	MJ/FU	2,03E+02	1,37E+00	4,32E+01	1,30E-01	1,49E+00	0,00E+00	2,24E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,94E-03	1,22E-01	4,73E-01	1,83E-01	-7,53E+01
 Use of renewable primary energy resources used as raw materials	MJ/FU	1,73E+00	0,00E+00	4,86E+01	0,00E+00	-3,80E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
 Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ/FU	2,05E+02	1,37E+00	9,17E+01	1,30E-01	-3,65E+01	0,00E+00	2,24E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,94E-03	1,22E-01	4,73E-01	1,83E-01	-7,53E+01
 Use of non-renewable primary energy excluding renewable primary energy resources used as raw materials	MJ/FU	1,45E+03	9,44E+01	1,07E+02	8,58E+00	1,63E+01	0,00E+00	9,86E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,71E-02	8,36E+00	2,65E+01	2,86E+00	-4,27E+02
 Use of non-renewable primary energy resources used as raw materials	MJ/FU	2,94E+02	0,00E+00	2,02E+01	0,00E+00	2,84E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-6,91E+01	0,00E+00	0,00E+00



















	Unit	Life Cycle Stages																
		A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
 Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ/FU	1,75E+03	9,44E+01	1,28E+02	8,58E+00	1,91E+01	0,00E+00	9,86E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,71E-02	8,36E+00	-4,26E+01	2,86E+00	-4,27E+02
 Use of secondary material	kg/FU	3,35E+00	3,21E-02	5,28E-01	3,05E-03	2,04E-01	0,00E+00	1,90E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,99E-06	2,84E-03	9,13E-03	1,19E-03	-4,14E+00
 Use of renewable secondary fuels	MJ/FU	5,51E-02	3,53E-04	2,35E+00	3,39E-05	2,41E-03	0,00E+00	1,32E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,42E-08	3,13E-05	9,12E-05	3,27E-05	-1,63E-03
 Use of non-renewable secondary fuels	MJ/FU	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
 Net use of freshwater	m ³ /FU	1,83E+00	1,20E-02	1,40E-01	1,12E-03	1,19E-02	0,00E+00	3,37E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,75E-06	1,07E-03	6,41E-03	3,76E-03	-5,30E-01
 Hazardous waste disposed	kg/FU	1,65E+01	1,07E-01	9,33E-01	1,01E-02	4,15E-01	0,00E+00	1,08E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,87E-04	9,51E-03	1,66E-01	1,14E-02	-4,28E+00
 Non-hazardous waste disposed	kg/FU	1,82E+02	1,91E+00	1,21E+01	1,79E-01	5,53E+00	0,00E+00	2,95E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,78E-03	1,69E-01	4,10E+00	6,29E+00	-4,22E+01
 Radioactive waste disposed	kg/FU	7,18E-03	6,49E-04	5,23E-04	5,89E-05	6,72E-05	0,00E+00	5,68E-05	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,68E-08	5,75E-05	1,59E-04	1,97E-05	-1,22E-03
 Components for re-use	kg/FU	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
 Materials for recycling	kg/FU	1,08E-01	2,96E-04	3,14E+00	2,74E-05	1,99E+00	0,00E+00	2,99E-05	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,06E-07	2,62E-05	1,82E+01	1,20E-05	2,67E+00
 Materials for energy recovery	kg/FU	2,73E-04	2,38E-06	1,19E-05	2,20E-07	3,62E-06	0,00E+00	3,56E-07	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,11E-10	2,10E-07	6,10E-07	6,73E-08	-1,76E-05
 Exported energy - Heat	MJ/FU	8,56E+00	8,54E-02	2,66E+00	7,90E-03	5,71E+00	0,00E+00	1,09E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,59E-04	7,57E-03	5,49E+01	1,17E-02	-8,05E-01
 Exported energy - Electricity	MJ/FU	2,00E+00	2,05E-02	4,42E-01	1,90E-03	1,47E-01	0,00E+00	3,46E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,09E-04	1,82E-03	3,70E+00	3,72E-03	-1,85E-01
 Exported energy - Gas	MJ/FU	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
 Exported energy	MJ/FU	1,06E+01	1,06E-01	3,10E+00	9,80E-03	5,86E+00	0,00E+00	1,44E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,68E-04	9,39E-03	5,86E+01	1,54E-02	-9,90E-01
















#In alpha – White PVC Triple glazing

	Unit	Life Cycle Stages																	
		A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	
 Climate change - total	kg CO ₂ eq./FU	8,65E+01	6,53E+00	9,07E+00	6,29E-01	3,42E+00	0,00E+00	2,14E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,69E-03	6,16E-01	5,35E+00	2,78E+00	-1,14E+01
 Climate change - fossil	kg CO ₂ eq./FU	8,39E+01	6,51E+00	8,77E+00	6,27E-01	1,54E+00	0,00E+00	2,07E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,38E-03	6,14E-01	3,33E+00	4,38E-01	-1,08E+01
 Climate change - biogenic	kg CO ₂ eq./FU	2,48E+00	2,26E-02	2,88E-01	2,26E-03	1,87E+00	0,00E+00	7,14E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,10E-04	2,13E-03	2,03E+00	2,34E+00	-6,53E-01
 Climate change – land use and land use change	kg CO ₂ eq./FU	1,18E-01	2,60E-03	1,21E-02	2,60E-04	1,34E-03	0,00E+00	1,79E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,86E-07	2,45E-04	6,14E-04	3,60E-05	-1,06E-02
 Ozone depletion	kg CFC 11 eq./FU	1,70E-05	1,51E-06	1,25E-06	1,44E-07	1,40E-07	0,00E+00	1,25E-07	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,91E-10	1,42E-07	4,27E-07	4,69E-08	-4,59E-06
 Acidification	mol H ⁺ eq./FU	5,59E-01	1,85E-02	5,81E-02	1,93E-03	7,01E-03	0,00E+00	1,55E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,37E-05	1,74E-03	9,81E-03	1,15E-03	-5,04E-02
 Eutrophication aquatic freshwater	kg P eq./FU	3,32E-02	4,45E-04	2,06E-03	4,42E-05	6,19E-04	0,00E+00	7,88E-05	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	8,13E-07	4,20E-05	2,76E-04	3,99E-05	-4,22E-03
 Eutrophication aquatic marine	kg N eq./FU	9,84E-02	3,77E-03	2,11E-02	4,41E-04	2,67E-03	0,00E+00	4,73E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,31E-06	3,56E-04	3,27E-03	6,08E-03	-8,60E-03
 Eutrophication terrestrial	mol N eq./FU	1,05E+00	4,10E-02	2,23E-01	4,80E-03	1,66E-02	0,00E+00	2,52E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,41E-05	3,87E-03	3,43E-02	4,35E-03	-8,91E-02
 Photochemical ozone formation	kg NMVOC eq./FU	3,13E-01	1,57E-02	6,77E-02	1,71E-03	6,55E-03	0,00E+00	4,29E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	7,03E-06	1,49E-03	1,02E-02	1,85E-03	-2,68E-02
 Depletion of abiotic resources - minerals and metals	kg Sb eq./FU	3,06E-03	2,35E-05	7,30E-05	2,40E-06	1,40E-05	0,00E+00	3,19E-06	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,28E-09	2,22E-06	5,45E-06	3,75E-07	-1,79E-04
 Depletion of abiotic resources - fossil fuels	MJ/FU	1,45E+03	9,69E+01	1,25E+02	9,29E+00	1,91E+01	0,00E+00	9,86E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,71E-02	9,14E+00	2,90E+01	3,21E+00	-2,38E+02
 Water use	m ³ world eq. deprived /FU	4,46E+01	4,53E-01	3,97E+00	4,46E-02	6,51E-01	0,00E+00	1,26E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,27E-04	4,28E-02	3,39E-01	2,89E-02	-5,97E+00
 Use of renewable primary energy excluding renewable primary energy resources used as raw materials	MJ/FU	9,44E+01	1,41E+00	3,64E+01	1,40E-01	1,49E+00	0,00E+00	2,24E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,94E-03	1,33E-01	5,22E-01	1,61E-01	-6,33E+00
 Use of renewable primary energy resources used as raw materials	MJ/FU	1,73E+00	0,00E+00	4,85E+01	0,00E+00	-3,80E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
 Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ/FU	9,61E+01	1,41E+00	8,49E+01	1,40E-01	-3,66E+01	0,00E+00	2,24E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,94E-03	1,33E-01	5,22E-01	1,61E-01	-6,33E+00
 Use of non-renewable primary energy excluding renewable primary energy resources used as raw materials	MJ/FU	1,16E+03	9,69E+01	8,90E+01	9,29E+00	1,63E+01	0,00E+00	9,86E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,71E-02	9,14E+00	2,90E+01	3,21E+00	-2,38E+02
 Use of non-renewable primary energy resources used as raw materials	MJ/FU	2,93E+02	0,00E+00	2,04E+01	0,00E+00	2,84E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-6,86E+01	0,00E+00	0,00E+00



















	Unit	Life Cycle Stages																
		A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
 Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ/FU	1,45E+03	9,69E+01	1,09E+02	9,29E+00	1,91E+01	0,00E+00	9,86E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,71E-02	9,14E+00	-3,97E+01	3,21E+00	-2,38E+02
 Use of secondary material	kg/FU	3,29E+00	3,30E-02	5,25E-01	3,30E-03	2,04E-01	0,00E+00	1,90E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,99E-06	3,11E-03	9,99E-03	9,92E-04	-5,79E+00
 Use of renewable secondary fuels	MJ/FU	3,21E-02	3,63E-04	2,35E+00	3,68E-05	2,41E-03	0,00E+00	1,32E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,42E-08	3,42E-05	1,00E-04	3,35E-05	-1,73E-03
 Use of non-renewable secondary fuels	MJ/FU	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
 Net use of freshwater	m ³ /FU	1,03E+00	1,23E-02	9,29E-02	1,21E-03	1,19E-02	0,00E+00	3,37E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,75E-06	1,17E-03	6,89E-03	4,14E-03	-1,59E-01
 Hazardous waste disposed	kg/FU	1,18E+01	1,10E-01	6,65E-01	1,09E-02	4,15E-01	0,00E+00	1,08E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,87E-04	1,04E-02	1,69E-01	4,21E-03	-2,13E-01
 Non-hazardous waste disposed	kg/FU	1,39E+02	1,96E+00	9,21E+00	1,94E-01	5,54E+00	0,00E+00	2,95E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,78E-03	1,85E-01	4,26E+00	5,64E+00	-1,82E+01
 Radioactive waste disposed	kg/FU	5,33E-03	6,67E-04	4,10E-04	6,38E-05	6,72E-05	0,00E+00	5,68E-05	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,68E-08	6,29E-05	1,75E-04	2,21E-05	-4,51E-04
 Components for re-use	kg/FU	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
 Materials for recycling	kg/FU	1,04E-01	3,04E-04	3,30E+00	2,97E-05	1,99E+00	0,00E+00	2,99E-05	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,06E-07	2,86E-05	1,94E+01	1,10E-05	4,01E+00
 Materials for energy recovery	kg/FU	2,71E-04	2,44E-06	1,15E-05	2,39E-07	3,62E-06	0,00E+00	3,56E-07	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,11E-10	2,30E-07	6,74E-07	7,38E-08	-2,06E-05
 Exported energy - Heat	MJ/FU	6,87E+00	8,77E-02	2,58E+00	8,57E-03	5,73E+00	0,00E+00	1,09E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,59E-04	8,28E-03	5,45E+01	1,13E-02	-7,23E-01
 Exported energy - Electricity	MJ/FU	1,60E+00	2,11E-02	4,22E-01	2,06E-03	1,49E-01	0,00E+00	3,46E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,09E-04	1,99E-03	3,70E+00	3,41E-03	-1,58E-01
 Exported energy - Gas	MJ/FU	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
 Exported energy	MJ/FU	8,46E+00	1,09E-01	3,01E+00	1,06E-02	5,88E+00	0,00E+00	1,44E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,68E-04	1,03E-02	5,82E+01	1,47E-02	-8,81E-01
















#In alpha – Coloured PVC Triple glazing

	Unit	Life Cycle Stages																	
		A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	
 Climate change - total	kg CO ₂ eq./FU	9,05E+01	6,57E+00	9,26E+00	6,29E-01	3,42E+00	0,00E+00	2,14E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,69E-03	6,16E-01	5,35E+00	2,78E+00	-1,14E+01
 Climate change - fossil	kg CO ₂ eq./FU	8,78E+01	6,54E+00	8,96E+00	6,27E-01	1,54E+00	0,00E+00	2,07E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,38E-03	6,14E-01	3,33E+00	4,38E-01	-1,08E+01
 Climate change - biogenic	kg CO ₂ eq./FU	2,62E+00	2,27E-02	2,88E-01	2,26E-03	1,87E+00	0,00E+00	7,14E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,10E-04	2,13E-03	2,03E+00	2,34E+00	-6,53E-01
 Climate change – land use and land use change	kg CO ₂ eq./FU	1,18E-01	2,61E-03	1,21E-02	2,60E-04	1,34E-03	0,00E+00	1,79E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,86E-07	2,45E-04	6,14E-04	3,60E-05	-1,06E-02
 Ozone depletion	kg CFC 11 eq./FU	1,72E-05	1,52E-06	1,25E-06	1,44E-07	1,40E-07	0,00E+00	1,25E-07	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,91E-10	1,42E-07	4,27E-07	4,69E-08	-4,59E-06
 Acidification	mol H ⁺ eq./FU	5,80E-01	1,86E-02	5,92E-02	1,93E-03	7,01E-03	0,00E+00	1,55E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,37E-05	1,74E-03	9,81E-03	1,15E-03	-5,04E-02
 Eutrophication aquatic freshwater	kg P eq./FU	3,38E-02	4,47E-04	2,08E-03	4,42E-05	6,19E-04	0,00E+00	7,88E-05	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	8,13E-07	4,20E-05	2,76E-04	3,99E-05	-4,22E-03
 Eutrophication aquatic marine	kg N eq./FU	1,01E-01	3,79E-03	2,13E-02	4,41E-04	2,67E-03	0,00E+00	4,73E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,31E-06	3,56E-04	3,27E-03	6,08E-03	-8,60E-03
 Eutrophication terrestrial	mol N eq./FU	1,08E+00	4,12E-02	2,25E-01	4,80E-03	1,66E-02	0,00E+00	2,52E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,41E-05	3,87E-03	3,43E-02	4,35E-03	-8,91E-02
 Photochemical ozone formation	kg NMVOC eq./FU	3,25E-01	1,58E-02	6,85E-02	1,71E-03	6,55E-03	0,00E+00	4,29E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	7,03E-06	1,49E-03	1,02E-02	1,85E-03	-2,68E-02
 Depletion of abiotic resources - minerals and metals	kg Sb eq./FU	3,06E-03	2,36E-05	7,32E-05	2,40E-06	1,40E-05	0,00E+00	3,19E-06	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,28E-09	2,22E-06	5,45E-06	3,75E-07	-1,79E-04
 Depletion of abiotic resources - fossil fuels	MJ/FU	1,51E+03	9,74E+01	1,28E+02	9,29E+00	1,91E+01	0,00E+00	9,86E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,71E-02	9,14E+00	2,90E+01	3,21E+00	-2,38E+02
 Water use	m ³ world eq. deprived /FU	4,52E+01	4,56E-01	4,01E+00	4,46E-02	6,51E-01	0,00E+00	1,26E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,27E-04	4,28E-02	3,39E-01	2,89E-02	-5,97E+00
 Use of renewable primary energy excluding renewable primary energy resources used as raw materials	MJ/FU	9,59E+01	1,42E+00	3,65E+01	1,40E-01	1,49E+00	0,00E+00	2,24E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,94E-03	1,33E-01	5,22E-01	1,61E-01	-6,33E+00
 Use of renewable primary energy resources used as raw materials	MJ/FU	1,73E+00	0,00E+00	4,85E+01	0,00E+00	-3,80E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
 Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ/FU	9,77E+01	1,42E+00	8,50E+01	1,40E-01	-3,66E+01	0,00E+00	2,24E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,94E-03	1,33E-01	5,22E-01	1,61E-01	-6,33E+00
 Use of non-renewable primary energy excluding renewable primary energy resources used as raw materials	MJ/FU	1,21E+03	9,74E+01	9,14E+01	9,29E+00	1,63E+01	0,00E+00	9,86E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,71E-02	9,14E+00	2,90E+01	3,21E+00	-2,38E+02
 Use of non-renewable primary energy resources used as raw materials	MJ/FU	3,00E+02	0,00E+00	2,10E+01	0,00E+00	2,84E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-6,86E+01	0,00E+00	0,00E+00

	Unit	Life Cycle Stages																
		A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
 Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ/FU	1,51E+03	9,74E+01	1,12E+02	9,29E+00	1,91E+01	0,00E+00	9,86E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,71E-02	9,14E+00	-3,97E+01	3,21E+00	-2,38E+02
 Use of secondary material	kg/FU	3,29E+00	3,31E-02	5,25E-01	3,30E-03	2,04E-01	0,00E+00	1,90E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,99E-06	3,11E-03	9,99E-03	9,92E-04	-5,79E+00
 Use of renewable secondary fuels	MJ/FU	3,61E-02	3,65E-04	2,35E+00	3,68E-05	2,41E-03	0,00E+00	1,32E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,42E-08	3,42E-05	1,00E-04	3,35E-05	-1,73E-03
 Use of non-renewable secondary fuels	MJ/FU	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
 Net use of freshwater	m ³ /FU	1,04E+00	1,24E-02	9,38E-02	1,21E-03	1,19E-02	0,00E+00	3,37E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,75E-06	1,17E-03	6,89E-03	4,14E-03	-1,59E-01
 Hazardous waste disposed	kg/FU	1,19E+01	1,11E-01	6,68E-01	1,09E-02	4,15E-01	0,00E+00	1,08E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,87E-04	1,04E-02	1,69E-01	4,21E-03	-2,13E-01
 Non-hazardous waste disposed	kg/FU	1,41E+02	1,97E+00	9,24E+00	1,94E-01	5,54E+00	0,00E+00	2,95E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,78E-03	1,85E-01	4,26E+00	5,64E+00	-1,82E+01
 Radioactive waste disposed	kg/FU	5,37E-03	6,70E-04	4,11E-04	6,38E-05	6,72E-05	0,00E+00	5,68E-05	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,68E-08	6,29E-05	1,75E-04	2,21E-05	-4,51E-04
 Components for re-use	kg/FU	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
 Materials for recycling	kg/FU	1,04E-01	3,05E-04	3,30E+00	2,97E-05	1,99E+00	0,00E+00	2,99E-05	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,06E-07	2,86E-05	1,94E+01	1,10E-05	4,01E+00
 Materials for energy recovery	kg/FU	2,71E-04	2,45E-06	1,15E-05	2,39E-07	3,62E-06	0,00E+00	3,56E-07	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,11E-10	2,30E-07	6,74E-07	7,38E-08	-2,06E-05
 Exported energy - Heat	MJ/FU	7,10E+00	8,82E-02	2,59E+00	8,57E-03	5,73E+00	0,00E+00	1,09E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,59E-04	8,28E-03	5,45E+01	1,13E-02	-7,23E-01
 Exported energy - Electricity	MJ/FU	1,66E+00	2,12E-02	4,23E-01	2,06E-03	1,49E-01	0,00E+00	3,46E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,09E-04	1,99E-03	3,70E+00	3,41E-03	-1,58E-01
 Exported energy - Gas	MJ/FU	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
 Exported energy	MJ/FU	8,76E+00	1,09E-01	3,01E+00	1,06E-02	5,88E+00	0,00E+00	1,44E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,68E-04	1,03E-02	5,82E+01	1,47E-02	-8,81E-01

#In alpha – Aluminium top Triple glazing

	Unit	Life Cycle Stages																	
		A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	
 Climate change - total	kg CO ₂ eq./FU	1,07E+02	6,76E+00	1,03E+01	6,63E-01	3,42E+00	0,00E+00	2,14E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,69E-03	6,53E-01	5,46E+00	2,79E+00	-2,68E+01
 Climate change - fossil	kg CO ₂ eq./FU	1,03E+02	6,73E+00	9,97E+00	6,60E-01	1,55E+00	0,00E+00	2,07E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,38E-03	6,51E-01	3,43E+00	4,46E-01	-2,58E+01
 Climate change - biogenic	kg CO ₂ eq./FU	3,06E+00	2,34E-02	3,25E-01	2,38E-03	1,88E+00	0,00E+00	7,14E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,10E-04	2,26E-03	2,03E+00	2,34E+00	-7,14E-01
 Climate change – land use and land use change	kg CO ₂ eq./FU	5,29E-01	2,69E-03	3,68E-02	2,74E-04	1,34E-03	0,00E+00	1,79E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,86E-07	2,60E-04	6,38E-04	3,84E-05	-2,96E-01
 Ozone depletion	kg CFC 11 eq./FU	1,91E-05	1,56E-06	1,37E-06	1,52E-07	1,40E-07	0,00E+00	1,25E-07	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,91E-10	1,51E-07	4,48E-07	4,90E-08	-5,70E-06
 Acidification	mol H+ eq./FU	6,80E-01	1,91E-02	6,55E-02	2,04E-03	7,01E-03	0,00E+00	1,55E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,37E-05	1,85E-03	1,04E-02	1,21E-03	-1,53E-01
 Eutrophication aquatic freshwater	kg P eq./FU	4,47E-02	4,61E-04	2,76E-03	4,66E-05	6,19E-04	0,00E+00	7,88E-05	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	8,13E-07	4,45E-05	2,85E-04	4,13E-05	-1,01E-02
 Eutrophication aquatic marine	kg N eq./FU	1,16E-01	3,90E-03	2,22E-02	4,65E-04	2,68E-03	0,00E+00	4,73E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,31E-06	3,77E-04	3,48E-03	6,10E-03	-2,35E-02
 Eutrophication terrestrial	mol N eq./FU	1,21E+00	4,24E-02	2,33E-01	5,06E-03	1,66E-02	0,00E+00	2,52E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,41E-05	4,10E-03	3,66E-02	4,60E-03	-2,35E-01
 Photochemical ozone formation	kg NMVOC eq./FU	3,71E-01	1,63E-02	7,13E-02	1,81E-03	6,55E-03	0,00E+00	4,29E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	7,03E-06	1,57E-03	1,09E-02	1,92E-03	-7,55E-02
 Depletion of abiotic resources - minerals and metals	kg Sb eq./FU	3,16E-03	2,43E-05	7,92E-05	2,53E-06	1,40E-05	0,00E+00	3,19E-06	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,28E-09	2,35E-06	5,67E-06	4,17E-07	9,87E-05
 Depletion of abiotic resources - fossil fuels	MJ/FU	1,76E+03	1,00E+02	1,44E+02	9,80E+00	1,91E+01	0,00E+00	9,86E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,71E-02	9,69E+00	3,04E+01	3,38E+00	-4,27E+02
 Water use	m ³ world eq. deprived /FU	7,98E+01	4,69E-01	6,09E+00	4,70E-02	6,51E-01	0,00E+00	1,26E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,27E-04	4,53E-02	3,46E-01	3,37E-02	-2,38E+01
 Use of renewable primary energy excluding renewable primary energy resources used as raw materials	MJ/FU	2,07E+02	1,46E+00	4,32E+01	1,48E-01	1,49E+00	0,00E+00	2,24E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,94E-03	1,41E-01	5,47E-01	1,93E-01	-7,56E+01
 Use of renewable primary energy resources used as raw materials	MJ/FU	1,73E+00	0,00E+00	4,85E+01	0,00E+00	-3,81E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
 Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ/FU	2,09E+02	1,46E+00	9,17E+01	1,48E-01	-3,66E+01	0,00E+00	2,24E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,94E-03	1,41E-01	5,47E-01	1,93E-01	-7,56E+01
 Use of non-renewable primary energy excluding renewable primary energy resources used as raw materials	MJ/FU	1,47E+03	1,00E+02	1,08E+02	9,80E+00	1,63E+01	0,00E+00	9,86E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,71E-02	9,69E+00	3,05E+01	3,38E+00	-4,27E+02
 Use of non-renewable primary energy resources used as raw materials	MJ/FU	2,93E+02	0,00E+00	2,06E+01	0,00E+00	2,84E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-6,86E+01	0,00E+00	0,00E+00

	Unit	Life Cycle Stages																
		A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
 Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ/FU	1,76E+03	1,00E+02	1,29E+02	9,80E+00	1,91E+01	0,00E+00	9,86E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,71E-02	9,69E+00	-3,82E+01	3,38E+00	-4,27E+02
 Use of secondary material	kg/FU	3,34E+00	3,41E-02	5,29E-01	3,48E-03	2,04E-01	0,00E+00	1,90E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,99E-06	3,30E-03	1,04E-02	1,29E-03	-4,14E+00
 Use of renewable secondary fuels	MJ/FU	3,53E-02	3,75E-04	2,35E+00	3,88E-05	2,41E-03	0,00E+00	1,32E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,42E-08	3,63E-05	1,03E-04	3,60E-05	-2,11E-03
 Use of non-renewable secondary fuels	MJ/FU	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
 Net use of freshwater	m ³ /FU	1,81E+00	1,28E-02	1,40E-01	1,28E-03	1,19E-02	0,00E+00	3,37E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,75E-06	1,23E-03	7,05E-03	4,39E-03	-5,35E-01
 Hazardous waste disposed	kg/FU	1,63E+01	1,14E-01	9,34E-01	1,15E-02	4,15E-01	0,00E+00	1,08E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,87E-04	1,10E-02	1,72E-01	1,18E-02	-4,28E+00
 Non-hazardous waste disposed	kg/FU	1,88E+02	2,03E+00	1,22E+01	2,05E-01	5,54E+00	0,00E+00	2,95E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,78E-03	1,96E-01	4,30E+00	6,26E+00	-4,23E+01
 Radioactive waste disposed	kg/FU	7,21E-03	6,90E-04	5,26E-04	6,73E-05	6,73E-05	0,00E+00	5,68E-05	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,68E-08	6,67E-05	1,83E-04	2,33E-05	-1,22E-03
 Components for re-use	kg/FU	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
 Materials for recycling	kg/FU	1,08E-01	3,14E-04	3,44E+00	3,14E-05	1,99E+00	0,00E+00	2,99E-05	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,06E-07	3,04E-05	2,11E+01	1,28E-05	4,01E+00
 Materials for energy recovery	kg/FU	2,77E-04	2,52E-06	1,19E-05	2,51E-07	3,62E-06	0,00E+00	3,56E-07	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,11E-10	2,44E-07	7,04E-07	7,78E-08	-2,26E-05
 Exported energy - Heat	MJ/FU	8,50E+00	9,08E-02	2,69E+00	9,03E-03	5,74E+00	0,00E+00	1,09E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,59E-04	8,77E-03	5,45E+01	1,25E-02	-7,68E-01
 Exported energy - Electricity	MJ/FU	1,99E+00	2,18E-02	4,47E-01	2,17E-03	1,50E-01	0,00E+00	3,46E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,09E-04	2,11E-03	3,70E+00	3,83E-03	-1,68E-01
 Exported energy - Gas	MJ/FU	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
 Exported energy	MJ/FU	1,05E+01	1,13E-01	3,14E+00	1,12E-02	5,89E+00	0,00E+00	1,44E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,68E-04	1,09E-02	5,82E+01	1,63E-02	-9,36E-01

SUMMARY OF ALL INDICATORS

In alpha - White PVC Double glazing

Impacts/flows	Unit	TOTAL Product stage	TOTAL Construction stage	TOTAL Use stage	TOTAL End-of-life stage	TOTAL Life cycle (without D)	Module D
■ Reference environmental indicators							
Climate change - total	kg CO ₂ eq./FU	9,88E+01	3,96E+00	2,14E-01	8,39E+00	1,11E+02	-1,14E+01
Climate change - fossil	kg CO ₂ eq./FU	9,59E+01	2,09E+00	2,07E-01	4,01E+00	1,02E+02	-1,07E+01
Climate change - biogenic	kg CO ₂ eq./FU	2,72E+00	1,87E+00	7,14E-03	4,38E+00	8,98E+00	-6,63E-01
Climate change – land use and land use change	kg CO ₂ eq./FU	1,31E-01	1,57E-03	1,79E-04	7,68E-04	1,34E-01	-9,90E-03
Ozone depletion	kg CFC 11 eq./FU	2,08E-05	2,65E-07	1,25E-07	5,30E-07	2,17E-05	-4,62E-06
Acidification	mol H+ eq./FU	6,05E-01	8,68E-03	1,55E-03	1,11E-02	6,27E-01	-4,86E-02
Eutrophication aquatic freshwater	kg P eq./FU	3,49E-02	6,58E-04	7,88E-05	3,26E-04	3,60E-02	-4,18E-03
Eutrophication aquatic marine	kg N eq./FU	1,19E-01	3,05E-03	4,73E-04	9,26E-03	1,32E-01	-8,37E-03
Eutrophication terrestrial	mol N eq./FU	1,27E+00	2,08E-02	2,52E-03	3,73E-02	1,33E+00	-8,40E-02
Photochemical ozone formation	kg NMVOC eq./FU	3,86E-01	8,03E-03	4,29E-03	1,19E-02	4,11E-01	-2,62E-02
Depletion of abiotic resources - minerals and metals	kg Sb eq./FU	3,18E-03	1,61E-05	3,19E-06	6,95E-06	3,21E-03	-1,72E-04
Depletion of abiotic resources - fossil fuels	MJ/FU	1,65E+03	2,72E+01	9,86E+00	3,56E+01	1,73E+03	-2,38E+02
Water use	m ³ world eq. deprived /FU	5,00E+01	6,89E-01	1,26E-01	3,77E-01	5,12E+01	-5,78E+00
■ Resource use indicators							
Use of renewable primary energy excluding renewable primary energy resources used as raw materials	MJ/FU	1,28E+02	1,61E+00	2,24E-01	7,14E-01	1,31E+02	-6,09E+00
Use of renewable primary energy resources used as raw materials	MJ/FU	5,03E+01	-3,79E+01	0,00E+00	0,00E+00	1,24E+01	0,00E+00
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ/FU	1,79E+02	-3,63E+01	2,24E-01	7,14E-01	1,43E+02	-6,09E+00
Use of non-renewable primary energy excluding renewable primary energy resources used as raw materials	MJ/FU	1,32E+03	2,43E+01	9,86E+00	3,56E+01	1,39E+03	-2,38E+02
Use of non-renewable primary energy resources used as raw materials	MJ/FU	3,14E+02	2,84E+00	0,00E+00	-6,91E+01	2,48E+02	0,00E+00
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ/FU	1,64E+03	2,72E+01	9,86E+00	-3,36E+01	1,64E+03	-2,38E+02
Use of secondary material	kg/FU	3,85E+00	2,06E-01	1,90E-03	1,22E-02	4,07E+00	-5,79E+00
Use of renewable secondary fuels	MJ/FU	2,40E+00	2,44E-03	1,32E-04	1,47E-04	2,41E+00	-1,26E-03
Use of non-renewable secondary fuels	MJ/FU	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Net use of freshwater	m ³ /FU	1,15E+00	1,30E-02	3,37E-03	1,08E-02	1,18E+00	-1,54E-01
■ Waste categories indicators							
Hazardous waste disposed	kg/FU	1,28E+01	4,25E-01	1,08E-02	1,76E-01	1,34E+01	-2,05E-01
Non-hazardous waste disposed	kg/FU	1,44E+02	5,70E+00	2,95E-01	9,90E+00	1,60E+02	-1,80E+01
Radioactive waste disposed	kg/FU	6,34E-03	1,23E-04	5,68E-05	2,23E-04	6,74E-03	-4,48E-04
■ Output flows indicators							
Components for re-use	kg/FU	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg/FU	3,11E+00	1,99E+00	2,99E-05	1,65E+01	2,16E+01	2,68E+00
Materials for energy recovery	kg/FU	2,81E-04	3,83E-06	3,56E-07	8,40E-07	2,86E-04	-1,56E-05
Exported energy - Heat	MJ/FU	9,56E+00	5,70E+00	1,09E-02	5,49E+01	7,01E+01	-7,60E-01
Exported energy - Electricity	MJ/FU	2,05E+00	1,48E-01	3,46E-03	3,70E+00	5,90E+00	-1,75E-01
Exported energy - Gas	MJ/FU	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy	MJ/FU	1,16E+01	5,85E+00	1,44E-02	5,86E+01	7,61E+01	-9,35E-01

In alpha - Coloured PVC Double glazing

Impacts/flows	Unit	TOTAL Product stage	TOTAL Construction stage	TOTAL Use stage	TOTAL End-of-life stage	TOTAL Life cycle (without D)	Module D
■ Reference environmental indicators							
Climate change - total	kg CO ₂ eq./FU	1,03E+02	3,96E+00	2,14E-01	8,39E+00	1,16E+02	-1,14E+01
Climate change - fossil	kg CO ₂ eq./FU	1,00E+02	2,09E+00	2,07E-01	4,01E+00	1,06E+02	-1,07E+01
Climate change - biogenic	kg CO ₂ eq./FU	2,86E+00	1,87E+00	7,14E-03	4,38E+00	9,12E+00	-6,63E-01
Climate change – land use and land use change	kg CO ₂ eq./FU	1,32E-01	1,57E-03	1,79E-04	7,68E-04	1,34E-01	-9,90E-03
Ozone depletion	kg CFC 11 eq./FU	2,10E-05	2,65E-07	1,25E-07	5,30E-07	2,19E-05	-4,62E-06
Acidification	mol H+ eq./FU	6,27E-01	8,68E-03	1,55E-03	1,11E-02	6,49E-01	-4,86E-02
Eutrophication aquatic freshwater	kg P eq./FU	3,55E-02	6,58E-04	7,88E-05	3,26E-04	3,65E-02	-4,18E-03
Eutrophication aquatic marine	kg N eq./FU	1,22E-01	3,05E-03	4,73E-04	9,26E-03	1,35E-01	-8,37E-03
Eutrophication terrestrial	mol N eq./FU	1,30E+00	2,08E-02	2,52E-03	3,73E-02	1,36E+00	-8,40E-02
Photochemical ozone formation	kg NMVOC eq./FU	4,00E-01	8,03E-03	4,29E-03	1,19E-02	4,24E-01	-2,62E-02
Depletion of abiotic resources - minerals and metals	kg Sb eq./FU	3,19E-03	1,61E-05	3,19E-06	6,95E-06	3,22E-03	-1,72E-04
Depletion of abiotic resources - fossil fuels	MJ/FU	1,71E+03	2,72E+01	9,86E+00	3,56E+01	1,79E+03	-2,38E+02
Water use	m ³ world eq. deprived /FU	5,06E+01	6,89E-01	1,26E-01	3,77E-01	5,18E+01	-5,78E+00
■ Resource use indicators							
Use of renewable primary energy excluding renewable primary energy resources used as raw materials	MJ/FU	1,30E+02	1,61E+00	2,24E-01	7,14E-01	1,32E+02	-6,09E+00
Use of renewable primary energy resources used as raw materials	MJ/FU	5,03E+01	-3,79E+01	0,00E+00	0,00E+00	1,24E+01	0,00E+00
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ/FU	1,80E+02	-3,63E+01	2,24E-01	7,14E-01	1,45E+02	-6,09E+00
Use of non-renewable primary energy excluding renewable primary energy resources used as raw materials	MJ/FU	1,38E+03	2,43E+01	9,86E+00	3,56E+01	1,45E+03	-2,38E+02
Use of non-renewable primary energy resources used as raw materials	MJ/FU	3,22E+02	2,84E+00	0,00E+00	-6,91E+01	2,56E+02	0,00E+00
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ/FU	1,70E+03	2,72E+01	9,86E+00	-3,36E+01	1,70E+03	-2,38E+02
Use of secondary material	kg/FU	3,85E+00	2,06E-01	1,90E-03	1,22E-02	4,07E+00	-5,79E+00
Use of renewable secondary fuels	MJ/FU	2,41E+00	2,44E-03	1,32E-04	1,47E-04	2,41E+00	-1,26E-03
Use of non-renewable secondary fuels	MJ/FU	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Net use of freshwater	m ³ /FU	1,17E+00	1,30E-02	3,37E-03	1,08E-02	1,20E+00	-1,54E-01
■ Waste categories indicators							
Hazardous waste disposed	kg/FU	1,30E+01	4,25E-01	1,08E-02	1,76E-01	1,36E+01	-2,05E-01
Non-hazardous waste disposed	kg/FU	1,46E+02	5,70E+00	2,95E-01	9,90E+00	1,62E+02	-1,80E+01
Radioactive waste disposed	kg/FU	6,38E-03	1,23E-04	5,68E-05	2,23E-04	6,79E-03	-4,48E-04
■ Output flows indicators							
Components for re-use	kg/FU	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg/FU	3,11E+00	1,99E+00	2,99E-05	1,65E+01	2,16E+01	2,68E+00
Materials for energy recovery	kg/FU	2,81E-04	3,83E-06	3,56E-07	8,40E-07	2,86E-04	-1,56E-05
Exported energy - Heat	MJ/FU	9,80E+00	5,70E+00	1,09E-02	5,49E+01	7,04E+01	-7,60E-01
Exported energy - Electricity	MJ/FU	2,11E+00	1,48E-01	3,46E-03	3,70E+00	5,96E+00	-1,75E-01
Exported energy - Gas	MJ/FU	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy	MJ/FU	1,19E+01	5,85E+00	1,44E-02	5,86E+01	7,64E+01	-9,35E-01

#In alpha - Aluminium top Double glazing

Impacts/flows	Unit	TOTAL Product stage	TOTAL Construction stage	TOTAL Use stage	TOTAL End-of-life stage	TOTAL Life cycle (without D)	Module D
■ Reference environmental indicators							
Climate change - total	kg CO ₂ eq./FU	1,21E+02	4,00E+00	2,14E-01	8,54E+00	1,34E+02	-2,67E+01
Climate change - fossil	kg CO ₂ eq./FU	1,17E+02	2,12E+00	2,07E-01	4,15E+00	1,23E+02	-2,57E+01
Climate change - biogenic	kg CO ₂ eq./FU	3,34E+00	1,87E+00	7,14E-03	4,39E+00	9,61E+00	-7,24E-01
Climate change – land use and land use change	kg CO ₂ eq./FU	5,67E-01	1,58E-03	1,79E-04	8,09E-04	5,70E-01	-2,95E-01
Ozone depletion	kg CFC 11 eq./FU	2,30E-05	2,73E-07	1,25E-07	5,62E-07	2,40E-05	-5,73E-06
Acidification	mol H+ eq./FU	7,35E-01	8,79E-03	1,55E-03	1,19E-02	7,57E-01	-1,51E-01
Eutrophication aquatic freshwater	kg P eq./FU	4,70E-02	6,60E-04	7,88E-05	3,40E-04	4,81E-02	-1,01E-02
Eutrophication aquatic marine	kg N eq./FU	1,38E-01	3,07E-03	4,73E-04	9,51E-03	1,52E-01	-2,33E-02
Eutrophication terrestrial	mol N eq./FU	1,44E+00	2,10E-02	2,52E-03	4,00E-02	1,50E+00	-2,30E-01
Photochemical ozone formation	kg NMVOC eq./FU	4,48E-01	8,13E-03	4,29E-03	1,27E-02	4,73E-01	-7,49E-02
Depletion of abiotic resources - minerals and metals	kg Sb eq./FU	3,29E-03	1,62E-05	3,19E-06	7,33E-06	3,32E-03	1,06E-04
Depletion of abiotic resources - fossil fuels	MJ/FU	1,98E+03	2,77E+01	9,86E+00	3,78E+01	2,06E+03	-4,27E+02
Water use	m ³ world eq. deprived /FU	8,74E+01	6,92E-01	1,26E-01	3,91E-01	8,86E+01	-2,36E+01
■ Resource use indicators							
Use of renewable primary energy excluding renewable primary energy resources used as raw materials	MJ/FU	2,48E+02	1,62E+00	2,24E-01	7,80E-01	2,50E+02	-7,53E+01
Use of renewable primary energy resources used as raw materials	MJ/FU	5,03E+01	-3,80E+01	0,00E+00	0,00E+00	1,23E+01	0,00E+00
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ/FU	2,98E+02	-3,64E+01	2,24E-01	7,80E-01	2,63E+02	-7,53E+01
Use of non-renewable primary energy excluding renewable primary energy resources used as raw materials	MJ/FU	1,65E+03	2,49E+01	9,86E+00	3,78E+01	1,73E+03	-4,27E+02
Use of non-renewable primary energy resources used as raw materials	MJ/FU	3,14E+02	2,84E+00	0,00E+00	-6,91E+01	2,48E+02	0,00E+00
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ/FU	1,97E+03	2,77E+01	9,86E+00	-3,14E+01	1,97E+03	-4,27E+02
Use of secondary material	kg/FU	3,91E+00	2,07E-01	1,90E-03	1,32E-02	4,13E+00	-4,14E+00
Use of renewable secondary fuels	MJ/FU	2,41E+00	2,45E-03	1,32E-04	1,55E-04	2,41E+00	-1,63E-03
Use of non-renewable secondary fuels	MJ/FU	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Net use of freshwater	m ³ /FU	1,99E+00	1,31E-02	3,37E-03	1,12E-02	2,01E+00	-5,30E-01
■ Waste categories indicators							
Hazardous waste disposed	kg/FU	1,76E+01	4,25E-01	1,08E-02	1,87E-01	1,82E+01	-4,28E+00
Non-hazardous waste disposed	kg/FU	1,96E+02	5,71E+00	2,95E-01	1,06E+01	2,13E+02	-4,22E+01
Radioactive waste disposed	kg/FU	8,35E-03	1,26E-04	5,68E-05	2,36E-04	8,77E-03	-1,22E-03
■ Output flows indicators							
Components for re-use	kg/FU	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg/FU	3,25E+00	1,99E+00	2,99E-05	1,82E+01	2,34E+01	2,67E+00
Materials for energy recovery	kg/FU	2,87E-04	3,84E-06	3,56E-07	8,88E-07	2,92E-04	-1,76E-05
Exported energy - Heat	MJ/FU	1,13E+01	5,72E+00	1,09E-02	5,49E+01	7,19E+01	-8,05E-01
Exported energy - Electricity	MJ/FU	2,46E+00	1,49E-01	3,46E-03	3,71E+00	6,32E+00	-1,85E-01
Exported energy - Gas	MJ/FU	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy	MJ/FU	1,38E+01	5,87E+00	1,44E-02	5,86E+01	7,82E+01	-9,90E-01

In alpha - White PVC Triple glazing

Impacts/flows	Unit	TOTAL Product stage	TOTAL Construction stage	TOTAL Use stage	TOTAL End-of-life stage	TOTAL Life cycle (without D)	Module D
■ Reference environmental indicators							
Climate change - total	kg CO ₂ eq./FU	1,02E+02	4,05E+00	2,14E-01	8,75E+00	1,15E+02	-1,14E+01
Climate change - fossil	kg CO ₂ eq./FU	9,92E+01	2,17E+00	2,07E-01	4,38E+00	1,06E+02	-1,08E+01
Climate change - biogenic	kg CO ₂ eq./FU	2,79E+00	1,88E+00	7,14E-03	4,37E+00	9,04E+00	-6,53E-01
Climate change – land use and land use change	kg CO ₂ eq./FU	1,32E-01	1,60E-03	1,79E-04	8,96E-04	1,35E-01	-1,06E-02
Ozone depletion	kg CFC 11 eq./FU	1,98E-05	2,84E-07	1,25E-07	6,17E-07	2,08E-05	-4,59E-06
Acidification	mol H+ eq./FU	6,35E-01	8,94E-03	1,55E-03	1,27E-02	6,59E-01	-5,04E-02
Eutrophication aquatic freshwater	kg P eq./FU	3,57E-02	6,63E-04	7,88E-05	3,59E-04	3,68E-02	-4,22E-03
Eutrophication aquatic marine	kg N eq./FU	1,23E-01	3,11E-03	4,73E-04	9,71E-03	1,37E-01	-8,60E-03
Eutrophication terrestrial	mol N eq./FU	1,32E+00	2,14E-02	2,52E-03	4,25E-02	1,38E+00	-8,91E-02
Photochemical ozone formation	kg NMVOC eq./FU	3,97E-01	8,26E-03	4,29E-03	1,36E-02	4,23E-01	-2,68E-02
Depletion of abiotic resources - minerals and metals	kg Sb eq./FU	3,15E-03	1,64E-05	3,19E-06	8,05E-06	3,18E-03	-1,79E-04
Depletion of abiotic resources - fossil fuels	MJ/FU	1,67E+03	2,84E+01	9,86E+00	4,14E+01	1,75E+03	-2,38E+02
Water use	m ³ world eq. deprived /FU	4,90E+01	6,95E-01	1,26E-01	4,11E-01	5,02E+01	-5,97E+00
■ Resource use indicators							
Use of renewable primary energy excluding renewable primary energy resources used as raw materials	MJ/FU	1,32E+02	1,63E+00	2,24E-01	8,18E-01	1,35E+02	-6,33E+00
Use of renewable primary energy resources used as raw materials	MJ/FU	5,02E+01	-3,80E+01	0,00E+00	0,00E+00	1,22E+01	0,00E+00
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ/FU	1,82E+02	-3,64E+01	2,24E-01	8,18E-01	1,47E+02	-6,33E+00
Use of non-renewable primary energy excluding renewable primary energy resources used as raw materials	MJ/FU	1,34E+03	2,56E+01	9,86E+00	4,14E+01	1,42E+03	-2,38E+02
Use of non-renewable primary energy resources used as raw materials	MJ/FU	3,13E+02	2,84E+00	0,00E+00	-6,86E+01	2,47E+02	0,00E+00
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ/FU	1,66E+03	2,84E+01	9,86E+00	-2,73E+01	1,67E+03	-2,38E+02
Use of secondary material	kg/FU	3,84E+00	2,07E-01	1,90E-03	1,41E-02	4,07E+00	-5,79E+00
Use of renewable secondary fuels	MJ/FU	2,39E+00	2,45E-03	1,32E-04	1,68E-04	2,39E+00	-1,73E-03
Use of non-renewable secondary fuels	MJ/FU	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Net use of freshwater	m ³ /FU	1,13E+00	1,32E-02	3,37E-03	1,22E-02	1,16E+00	-1,59E-01
■ Waste categories indicators							
Hazardous waste disposed	kg/FU	1,26E+01	4,26E-01	1,08E-02	1,84E-01	1,32E+01	-2,13E-01
Non-hazardous waste disposed	kg/FU	1,50E+02	5,73E+00	2,95E-01	1,01E+01	1,67E+02	-1,82E+01
Radioactive waste disposed	kg/FU	6,41E-03	1,31E-04	5,68E-05	2,60E-04	6,85E-03	-4,51E-04
■ Output flows indicators							
Components for re-use	kg/FU	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg/FU	3,41E+00	1,99E+00	2,99E-05	1,94E+01	2,48E+01	4,01E+00
Materials for energy recovery	kg/FU	2,85E-04	3,86E-06	3,56E-07	9,78E-07	2,90E-04	-2,06E-05
Exported energy - Heat	MJ/FU	9,54E+00	5,73E+00	1,09E-02	5,46E+01	6,98E+01	-7,23E-01
Exported energy - Electricity	MJ/FU	2,04E+00	1,51E-01	3,46E-03	3,70E+00	5,90E+00	-1,58E-01
Exported energy - Gas	MJ/FU	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy	MJ/FU	1,16E+01	5,89E+00	1,44E-02	5,83E+01	7,57E+01	-8,81E-01

In alpha - Coloured PVC Triple glazing

Impacts/flows	Unit	TOTAL Product stage	TOTAL Construction stage	TOTAL Use stage	TOTAL End-of-life stage	TOTAL Life cycle (without D)	Module D
■ Reference environmental indicators							
Climate change - total	kg CO ₂ eq./FU	1,06E+02	4,05E+00	2,14E-01	8,75E+00	1,19E+02	-1,14E+01
Climate change - fossil	kg CO ₂ eq./FU	1,03E+02	2,17E+00	2,07E-01	4,38E+00	1,10E+02	-1,08E+01
Climate change - biogenic	kg CO ₂ eq./FU	2,93E+00	1,88E+00	7,14E-03	4,37E+00	9,18E+00	-6,53E-01
Climate change – land use and land use change	kg CO ₂ eq./FU	1,33E-01	1,60E-03	1,79E-04	8,96E-04	1,36E-01	-1,06E-02
Ozone depletion	kg CFC 11 eq./FU	2,00E-05	2,84E-07	1,25E-07	6,17E-07	2,10E-05	-4,59E-06
Acidification	mol H+ eq./FU	6,57E-01	8,94E-03	1,55E-03	1,27E-02	6,81E-01	-5,04E-02
Eutrophication aquatic freshwater	kg P eq./FU	3,63E-02	6,63E-04	7,88E-05	3,59E-04	3,74E-02	-4,22E-03
Eutrophication aquatic marine	kg N eq./FU	1,26E-01	3,11E-03	4,73E-04	9,71E-03	1,40E-01	-8,60E-03
Eutrophication terrestrial	mol N eq./FU	1,35E+00	2,14E-02	2,52E-03	4,25E-02	1,41E+00	-8,91E-02
Photochemical ozone formation	kg NMVOC eq./FU	4,10E-01	8,26E-03	4,29E-03	1,36E-02	4,36E-01	-2,68E-02
Depletion of abiotic resources - minerals and metals	kg Sb eq./FU	3,16E-03	1,64E-05	3,19E-06	8,05E-06	3,19E-03	-1,79E-04
Depletion of abiotic resources - fossil fuels	MJ/FU	1,73E+03	2,84E+01	9,86E+00	4,14E+01	1,81E+03	-2,38E+02
Water use	m ³ world eq. deprived /FU	4,97E+01	6,95E-01	1,26E-01	4,11E-01	5,09E+01	-5,97E+00
■ Resource use indicators							
Use of renewable primary energy excluding renewable primary energy resources used as raw materials	MJ/FU	1,34E+02	1,63E+00	2,24E-01	8,18E-01	1,36E+02	-6,33E+00
Use of renewable primary energy resources used as raw materials	MJ/FU	5,02E+01	-3,80E+01	0,00E+00	0,00E+00	1,22E+01	0,00E+00
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ/FU	1,84E+02	-3,64E+01	2,24E-01	8,18E-01	1,49E+02	-6,33E+00
Use of non-renewable primary energy excluding renewable primary energy resources used as raw materials	MJ/FU	1,40E+03	2,56E+01	9,86E+00	4,14E+01	1,47E+03	-2,38E+02
Use of non-renewable primary energy resources used as raw materials	MJ/FU	3,21E+02	2,84E+00	0,00E+00	-6,86E+01	2,55E+02	0,00E+00
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ/FU	1,72E+03	2,84E+01	9,86E+00	-2,73E+01	1,73E+03	-2,38E+02
Use of secondary material	kg/FU	3,85E+00	2,07E-01	1,90E-03	1,41E-02	4,07E+00	-5,79E+00
Use of renewable secondary fuels	MJ/FU	2,39E+00	2,45E-03	1,32E-04	1,68E-04	2,39E+00	-1,73E-03
Use of non-renewable secondary fuels	MJ/FU	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Net use of freshwater	m ³ /FU	1,15E+00	1,32E-02	3,37E-03	1,22E-02	1,18E+00	-1,59E-01
■ Waste categories indicators							
Hazardous waste disposed	kg/FU	1,27E+01	4,26E-01	1,08E-02	1,84E-01	1,33E+01	-2,13E-01
Non-hazardous waste disposed	kg/FU	1,52E+02	5,73E+00	2,95E-01	1,01E+01	1,68E+02	-1,82E+01
Radioactive waste disposed	kg/FU	6,45E-03	1,31E-04	5,68E-05	2,60E-04	6,90E-03	-4,51E-04
■ Output flows indicators							
Components for re-use	kg/FU	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg/FU	3,41E+00	1,99E+00	2,99E-05	1,94E+01	2,48E+01	4,01E+00
Materials for energy recovery	kg/FU	2,85E-04	3,86E-06	3,56E-07	9,78E-07	2,90E-04	-2,06E-05
Exported energy - Heat	MJ/FU	9,78E+00	5,73E+00	1,09E-02	5,46E+01	7,01E+01	-7,23E-01
Exported energy - Electricity	MJ/FU	2,10E+00	1,51E-01	3,46E-03	3,70E+00	5,96E+00	-1,58E-01
Exported energy - Gas	MJ/FU	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy	MJ/FU	1,19E+01	5,89E+00	1,44E-02	5,83E+01	7,60E+01	-8,81E-01

#In alpha - Aluminium top Triple glazing

Impacts/flows	Unit	TOTAL Product stage	TOTAL Construction stage	TOTAL Use stage	TOTAL End-of-life stage	TOTAL Life cycle (without D)	Module D
■ Reference environmental indicators							
Climate change - total	kg CO ₂ eq./FU	1,24E+02	4,09E+00	2,14E-01	8,90E+00	1,37E+02	-2,68E+01
Climate change - fossil	kg CO ₂ eq./FU	1,20E+02	2,21E+00	2,07E-01	4,53E+00	1,27E+02	-2,58E+01
Climate change - biogenic	kg CO ₂ eq./FU	3,41E+00	1,88E+00	7,14E-03	4,37E+00	9,67E+00	-7,14E-01
Climate change – land use and land use change	kg CO ₂ eq./FU	5,68E-01	1,62E-03	1,79E-04	9,37E-04	5,71E-01	-2,96E-01
Ozone depletion	kg CFC 11 eq./FU	2,20E-05	2,92E-07	1,25E-07	6,49E-07	2,31E-05	-5,70E-06
Acidification	mol H+ eq./FU	7,64E-01	9,05E-03	1,55E-03	1,35E-02	7,89E-01	-1,53E-01
Eutrophication aquatic freshwater	kg P eq./FU	4,79E-02	6,66E-04	7,88E-05	3,72E-04	4,90E-02	-1,01E-02
Eutrophication aquatic marine	kg N eq./FU	1,42E-01	3,14E-03	4,73E-04	9,96E-03	1,56E-01	-2,35E-02
Eutrophication terrestrial	mol N eq./FU	1,49E+00	2,17E-02	2,52E-03	4,53E-02	1,56E+00	-2,35E-01
Photochemical ozone formation	kg NMVOC eq./FU	4,58E-01	8,36E-03	4,29E-03	1,44E-02	4,85E-01	-7,55E-02
Depletion of abiotic resources - minerals and metals	kg Sb eq./FU	3,26E-03	1,65E-05	3,19E-06	8,44E-06	3,29E-03	9,87E-05
Depletion of abiotic resources - fossil fuels	MJ/FU	2,00E+03	2,89E+01	9,86E+00	4,36E+01	2,09E+03	-4,27E+02
Water use	m ³ world eq. deprived /FU	8,64E+01	6,98E-01	1,26E-01	4,25E-01	8,76E+01	-2,38E+01
■ Resource use indicators							
Use of renewable primary energy excluding renewable primary energy resources used as raw materials	MJ/FU	2,52E+02	1,63E+00	2,24E-01	8,83E-01	2,54E+02	-7,56E+01
Use of renewable primary energy resources used as raw materials	MJ/FU	5,02E+01	-3,81E+01	0,00E+00	0,00E+00	1,21E+01	0,00E+00
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ/FU	3,02E+02	-3,64E+01	2,24E-01	8,83E-01	2,66E+02	-7,56E+01
Use of non-renewable primary energy excluding renewable primary energy resources used as raw materials	MJ/FU	1,67E+03	2,61E+01	9,86E+00	4,36E+01	1,75E+03	-4,27E+02
Use of non-renewable primary energy resources used as raw materials	MJ/FU	3,13E+02	2,84E+00	0,00E+00	-6,86E+01	2,48E+02	0,00E+00
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ/FU	1,99E+03	2,89E+01	9,86E+00	-2,51E+01	2,00E+03	-4,27E+02
Use of secondary material	kg/FU	3,90E+00	2,07E-01	1,90E-03	1,50E-02	4,12E+00	-4,14E+00
Use of renewable secondary fuels	MJ/FU	2,39E+00	2,45E-03	1,32E-04	1,76E-04	2,39E+00	-2,11E-03
Use of non-renewable secondary fuels	MJ/FU	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Net use of freshwater	m ³ /FU	1,96E+00	1,32E-02	3,37E-03	1,27E-02	1,99E+00	-5,35E-01
■ Waste categories indicators							
Hazardous waste disposed	kg/FU	1,73E+01	4,27E-01	1,08E-02	1,95E-01	1,80E+01	-4,28E+00
Non-hazardous waste disposed	kg/FU	2,03E+02	5,74E+00	2,95E-01	1,08E+01	2,19E+02	-4,23E+01
Radioactive waste disposed	kg/FU	8,42E-03	1,35E-04	5,68E-05	2,73E-04	8,89E-03	-1,22E-03
■ Output flows indicators							
Components for re-use	kg/FU	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg/FU	3,55E+00	1,99E+00	2,99E-05	2,11E+01	2,66E+01	4,01E+00
Materials for energy recovery	kg/FU	2,91E-04	3,88E-06	3,56E-07	1,03E-06	2,97E-04	-2,26E-05
Exported energy - Heat	MJ/FU	1,13E+01	5,75E+00	1,09E-02	5,46E+01	7,16E+01	-7,68E-01
Exported energy - Electricity	MJ/FU	2,46E+00	1,53E-01	3,46E-03	3,70E+00	6,32E+00	-1,68E-01
Exported energy - Gas	MJ/FU	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy	MJ/FU	1,37E+01	5,90E+00	1,44E-02	5,83E+01	7,79E+01	-9,36E-01

6 ADDITIONNAL INFORMATION

The PVC scrap generated during the PVC section production process is re-used directly into the extrusion machine by Alphacan without any additional treatment. The material scrap is then considered as a By-product according to D. Lgs. 152/2006 Art.184a(1) and Ministerial Decree no. 264 of 13 october 2016). The following table gives the amount of By-product content for each specific product declared:

Code	Product	PVC section mass (kg/FU)	PVC by-product content (% of PVC section)	PVC by-product content (kg/FU)	Window total mass (kg/FU)	By-product proportion in finished product	Pre-consumer recycled content	Post-consumer recycled content
F1	In Alpha - White PVC Double glazing	11,23	39,9%	4,48	31,6	14,0%	n.p.d	n.p.d
F2	In Alpha - Colored PVC Double glazing	11,23	39,9%	4,48	31,9	13,9%	n.p.d	n.p.d
F3	In Alpha - Aluminium top Double glazing	11,23	39,9%	4,48	33,86	13,1%	n.p.d	n.p.d
F4	In Alpha - White PVC Triple glazing	11,23	39,9%	4,48	37,09	12,0%	n.p.d	n.p.d
F5	In Alpha - Colored PVC Triple glazing	11,23	39,9%	4,48	37,38	11,9%	n.p.d	n.p.d
F6	In Alpha - Aluminium top Triple glazing	11,23	39,9%	4,48	39,34	11,3%	n.p.d	n.p.d

The values declared above refer to the manufacturing sites of Sablé-sur-sarthe and Arco.

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