Environmental Product Declaration

In accordance with ISO 14025:2006 and 2026 and EN 15804:2012+A2:2019/AC:2021 for:

PVC-U Window System with Triple Insulating Glass Unit

representative product WP5000 single-sash, inward-opening, covering the window systems Energy WP5000 and Avangard WP82 with white and laminated profiles

from

Weiss-Profil Ltd.

Programme:	The International EPD System, www.environdec.com
Programme operator:	EPD International AB
Type of EPD:	EPD of multiple products, based on a representative product
EPD registration number:	EPD-IES-0035163:002
Version date:	2026-11-19
Validity date:	2031-11-10

An EPD may be updated or depublished if conditions change. To find the latest version of the EPD and to confirm its validity, see www.environdec.com



GENERAL INFORMATION

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

Product Category Rules (PCR)
CEN standard EN 15804 serves as the Core Product Category Rules (PCR)
PCR 2019:14 "Construction products", v2.0.1 **UN CPC code: 3695 Builders' ware of plastics n.e.c.**
PCR review was conducted by: *Rob Rouwette (chair), Noa Meron (co-chair). The Technical Committee of the International EPD System. A full list of members is available on www.environdec.com. The review panel may be contacted via support@environdec.com*
c-PCR-007 to PCR 2019:14 "Windows and doors (EN 17213:2020+A1:2025)", v2.0.0

Third-party Verification
Independent third-party verification of the declaration and data, according to ISO 14025:2026, via: ☒ **Individual EPD verification without a pre-verified LCA/EPD tool** Third-party verifier: *Ms. Mari Kirss, Meetripuu OÜ* Approved by: International EPD System
Procedure for follow-up of data during EPD validity involves third party verifier: ☐ Yes ☒ No

The EPD owner has the sole ownership, liability, and responsibility for the EPD.

EPDs within the same product category but published in different EPD programmes, may not be comparable. For two EPDs to be comparable, they shall be based on the same PCR (including the same first-digit version number) or be based on fully aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical declared/functional units); have identical scope in terms of included life-cycle stages (unless the excluded life-cycle stage is demonstrated to be insignificant); apply identical impact assessment methods (including the same version of characterisation factors); and be valid at the time of comparison.
For further information about comparability, see EN 15804 and ISO 14025.

INFORMATION ABOUT EPD OWNER

Owner of the EPD: Weiss-Profil Ltd.
Address: NPZ Voenna rampa, 8 "Iliyansko Shose" str, 1220, Sofia, Bulgaria
Contact: Ms. Teodora Tsvetanova

Address and contact information of the LCA practitioner commissioned by the EPD owner:
Dr. Nikolay Minkov (nikolay@greentability.com)
greentability Ltd.
66 “Vitosha” blvd., 1463, Sofia, Bulgaria

in cooperation with
National Ecological Institute Ltd.
26 „Vasil Kanchev“ Str., 1510, Sofia, Bulgaria

Description of the organisation:
Founded in 2002, Weiss-Profil Ltd. is a leading Bulgarian manufacturer of PVC and aluminium profile systems, offering high-quality, energy-efficient solutions with contemporary designs. Our profile systems meet all European standards and contribute to the achievement of high construction performance.
Advantages of our systems:

- high durability and energy efficiency
- modern and functional design
- innovative solutions for a variety of projects
- manufacturing with attention to every detail

The company offers a wide range of profile systems for windows and doors, developed and refined through years of testing under various conditions.
Main PVC systems:

- **WP3000 Essential** (3 chambers, 60 mm) is a basic system providing good insulation at an affordable price
- **WP4000 Smart** (4 chambers, 60 mm) is a balanced solution with improved characteristics compared to 3-chamber systems, offering stability and effective insulation
- **WP5000 Energy** (5 chambers, 72 mm) is a system with increased energy efficiency and low heat transfer coefficient, suitable for energy-saving homes
- **WP6000 Expert** (6 chambers, 72 mm) is a robust and highly efficient system, ideal for larger structures and for achieving excellent noise and thermal insulation
- **WP82 Avangard** (7 chambers, 82 mm) is a premium system with leading technical performance, including a third seal and extremely high energy efficiency

The production plant in Sofia, Bulgaria covers an area of 14 000 m^2 and is equipped with modern, high-tech machinery and facilities, which assures customers with products of European standard and quality. The company exports about 80% of its production to over 25 countries. The main partners in Bulgaria are Handel, with offices throughout the country, and Weiss Profil Export, with commercial outlets in Romania, Albania, Serbia, Moldova, and Mozambique. Weiss Profil’s products are also distributed on the markets in Belgium, Germany, France, Italy, and Austria.

The main principles of work Weiss-Profil Ltd. are professionalism, fairness, and long-term partnerships.

Management system-related certifications:

- ISO 9001:2015 (quality management)
- ISO 14001:2015 (environmental management)
- ISO 45001:2023 (occupational health & safety)

The quality of the manufactured products is monitored hourly by the „Solar Project“ testing laboratory, which is located on the premises of the factory and is accredited according to BDS EN ISO IEC 17025 and notified as a Body for Conformity Assessment of Construction Products. It is equipped with devices that monitor all aspects of the quality of the profile, as well as finished doors and windows. All methods for testing finished profiles are carried out in accordance with the relevant regulatory documents:

- BDS EN 477 Determination of the resistance to impact of profiles by falling mass
- BDS EN 479 Determination of heat reversion
- BDS EN 513 Determination of the resistance to artificial weathering
- BDS EN 514 Determination of the strength of welded corners and T-joints
- BDS EN ISO 179-2 Determination of Charpy impact properties



PRODUCT INFORMATION

Product name: PVC-U window system with triple insulating glass unit (Energy WP5000 and Avangard WP82)

Product identification:
PVC-U windows of the systems Energy WP5000 (5 chambers, 72 mm) and Avangard WP82 (7 chambers, 82 mm), with white or laminated (decorative foil) PVC-U profiles, galvanised steel reinforcement, EPDM gaskets, hardware and argon-filled triple insulating glass unit (IGU). The representative product is in configuration single-sash, inward-opening window, reference size 1.23 x 1.48 m = 1.82 m², 68.24 kg/unit, modelled with white profiles. It was selected as the configuration with the highest production volume in 2024 (45.7% of the total area produced); white profiles account for over 80% of production and have a higher environmental footprint than laminated profiles. The EPD further covers the single-sash and the double-sash window configurations with flying mullion, fixed mullion and one opening sash of both systems (total of eight configurations), each with white and with laminated profiles. The products contain no motors, drives, automated blinds or shutters.

Visual representation of the product:



UN CPC code: 3695 Builders' ware of plastics n.e.c.

Product description:
The windows are assembled at the Weiss-Profil production facility in Sofia, Bulgaria, from PVC-U profiles extruded in-house (covered by the upstream EPDs EPD-IES-0026777:001 for white and EPD-IES-0026778:001 for laminated profiles) and externally sourced steel reinforcement, IGUs, hardware and fasteners. The assembly consists of the following main steps: profile cutting (mitre-cutting of frame and sash profiles and insertion of the steel reinforcement), corner welding and cleaning, hardware routing and fitting, glazing (placing the IGU into the glazing rebate and securing it with glazing beads), and final inspection and packing. Completed units undergo dimensional and functional checks, are hand-wrapped in stretch film and transported on plywood A-frame racks. Windows with white and with laminated profiles undergo identical production steps on the same production line.

The product in scope has the following technical specifications:

Property	Unit	WP5000	WP82
Number of chambers	-	5	7
Frame assembly width (thickness: 0.072 m / 0.082 m)	mm	72	82
Declared glazing (triple IGU, argon-filled)	mm	40 (4/14/4/14/4)	44 (4/16/4/16/4)
Number of sealing gaskets	-	2	3
Steel reinforcement, thickness	mm	1.5 / 2.0	1.5 / 2.0
Thermal transmittance, Uw (EN ISO 10077-1/-2)	W/m²K	0.80	0.75
Sound insulation, Rw (EN ISO 10140-2 / EN ISO 717-1)	dB	41	41
Air permeability (EN 12207)	class	Class 4	Class 4
Water tightness (EN 12208)	class	Class A8	Class A9
Resistance to wind load (EN 12210)	class	Class 5A / 5B	Class 5C

Name and location of production site: NPZ Voenna rampa, 8 "Iliyansko Shose" str, 1220, Sofia, Bulgaria

More information, available at: https://www.weissprofil.bg/en

CONTENT DECLARATION

Mass of the product: 68.24 kg per window unit (reference size 1.23 x 1.48 m = 1.82 m²) for the representative product, i.e. 37.48 kg per declared unit of 1 m² (incl. packaging)

Content of the representative product WP5000 single-sash, inward-opening window (per declared unit of 1 m²):

Ingredient	Share [%]	Mass [kg/m²]
PVC-U profiles (white or laminated)	20.7	7.75
Steel reinforcement (galvanised)	14.0	5.24
IGU (triple, argon-filled)	57.5	21.54
Hardware	2.3	0.86
Packaging	5.6	2.09
TOTAL	100.0	37.48

Across the eight covered configurations, the mass per declared unit (incl. 2.09 kg packaging) ranges from 37.48 kg (WP5000 single-sash) to 44.00 kg (WP82 double-sash with fixed mullion): PVC-U profiles 7.75-12.99 kg (20.7-29.5%), steel reinforcement 5.24-9.60 kg (14.0-21.8%), IGU 18.33-21.54 kg (41.6-57.5%), hardware 0.71-0.99 kg (1.7-2.5%) and packaging 4.8-5.6%

Information on the environmental and hazardous/toxic properties of a substances contained in the product:
There is no substance in the candidate list of Substances of Very High Concern (SVHCs) which exceeds the limits for registration with the European Chemicals Agency (i.e. does not constitute more than 0.1% of the weight of the product or of any of its components).

The declared share of biogenic/recycled materials:
The product does not contain biogenic carbon or recycled materials. The only source of biogenic carbon is the plywood transport rack, which is treated conservatively as single-use packaging (no evidenced return loop). As its share exceeds 5% of the product-plus-packaging mass, the biogenic carbon content of the packaging is declared: 0.91 kg C per declared unit, equivalent to 3.34 kg CO_2. Biogenic CO_2 uptake is accounted for in A1 and released in A5 (incineration of the rack).

Product content	Mass, kg	Post-consumer recycled material, mass-% of product	Biogenic material, mass-% of product	Biogenic material, kg C/product or declared unit
PVC-U profiles	7.75	0%	0%	0.00
Steel reinforcement	5.24	0%	0%	0.00
IGU	21.54	0%	0%	0.00
Hardware	0.86	0%	0%	0.00
TOTAL	35.39	0%	0%	0.00

Packaging materials	Mass, kg	Mass-% (versus the product)	Biogenic material, kg C/product or declared unit
Plywood transport rack (single use)	2.04	5.44%	0.91
LLDPE stretch film	0.05	0.12%	0.00
PP strapping + steel clamps	0.01	0.02%	0.00
TOTAL	2.09	5.59%	0.91

1 kg biogenic carbon in the product/packaging is equivalent to the uptake of 44/12 kg of CO_2.

LCA INFORMATION

Declared unit: 1 m² of window (representative product WP5000 single-sash, inward-opening window, calculated for the standard size 1.23 x 1.48 m = 1.82 m² according to EN 17213)

Reference service life: not declared (according to EN 17213, the RSL can only be declared where scenarios for modules B1-B5 are provided; according to the manufacturer, a service life of at least 30 years can be expected without the need for substantial exchange of components, under normal conditions of use and with maintenance as specified by the manufacturer; this estimate is not used in the LCA)

Time representativeness: 01 January 2024 – 31 December 2024

Geographical scope:
- A1-A2 Europe
- A3 Bulgaria
- A4-A5, C1-C4 and D Europe

Database and LCA software used: OpenLCA v2.5.0 + ecoinvent v3.11 (EN 15804+A2 add on), EF 3.1

Description of system boundaries:
The EPD is Type b) Cradle to gate with options, modules C1-C4, module D and with optional modules A4 and A5 (A1-A3 + A4-A5 + C + D)

The following life cycle stages are considered:

A1: Raw material supply
This stage covers the extraction and production of raw materials and energy sources and their related burdens, i.e. the PVC-U profiles (modelled with the upstream EPDs of Weiss-Profil for white and laminated profiles), the galvanised steel reinforcement, the triple IGU, the hardware and the packaging materials (incl. the biogenic carbon uptake of the plywood). No secondary material inputs are used.

A2: Transportation to the industrial unit
The transport of all raw materials to the manufacturing site is covered in this stage, modelled as road transport by lorry. Most suppliers by volume are located in close proximity (0-15 km) to the manufacturing site in Sofia, Bulgaria, where the PVC-U profiles are also extruded; only the hardware is supplied from Italy (approx. 1 200 km).

A3: Manufacturing of the product

Once raw materials are delivered, the assembly of the windows takes place in this stage (profile cutting, corner welding and cleaning, hardware fitting, glazing, inspection and packing). Here the consumption of electricity is accounted (77% BG residual mix and 23% own photovoltaic production), used predominantly for heating and lighting of the facility and to a small extent for the assembly tools. The packing of the products (plywood racks, stretch film and strapping) is modelled here, too, along with the generation of production offcuts (PVC offcuts of approx. 1.25% are recycled on site). No water is consumed and no wastewater is generated.

A4: Transport to the building site

Road transport by lorry (>32 t, EURO 6) to the destination markets is modelled. In the reference year, 99% of the production was exported to France (50%, 2 150 km), Belgium (40%, 2 100 km) and Italy (10%, 1 650 km), giving a weighted average distance of 2 080 km. An empty return leg and a capacity utilisation of 85% are included as required by EN 17213.

A5: Installation

Module A5 covers the treatment of the product packaging at the building site: the single-use plywood transport rack is incinerated with energy recovery, releasing the biogenic carbon accounted for in A1 (3.34 kg CO_2 / m²). Ancillary materials used for installation (e.g. fixings, sealants, insulation materials) and electricity for power tools are considered at the building level and are within the cut-off criteria, in accordance with EN 17213.

C1-C4: End-of-life

The end-of-life of the windows is modelled following the default EoL scenario of EN 17213 (Annex B), assuming demolition, transport to waste processing or disposal, and waste processing:

- C1: Diesel consumption of demolition machinery of 1.1 kWh/t (default value of PCR 2019:14)
- C2: Transport by lorry (7.5-16 t, EURO 6) over 80 km for materials not incinerated and 130 km for materials incinerated (default values of PCR 2019:14)
- C3: The following waste processing scenario is applied (EN 17213 default):
  - Metals (steel reinforcement, hardware): 75% collected for recycling, 25% landfilled
  - PVC-U: 75% collected, of which 45% recycling and 55% incineration with energy recovery (R1 > 60%); 25% landfilled
  - Glass: 30% collected for recycling, 70% landfilled
- C4: Landfilling of the non-collected fractions (25% of metals and PVC-U, 70% of glass)
- EoL quantities per declared unit: 16.84 kg collected separately (metals 4.57 kg, PVC-U 5.81 kg, glass 6.46 kg) and 18.54 kg not collected; 13.65 kg sent to recycling (12.28 kg after 10% processing losses), 3.20 kg of PVC-U to energy recovery and 18.54 kg to final disposal.

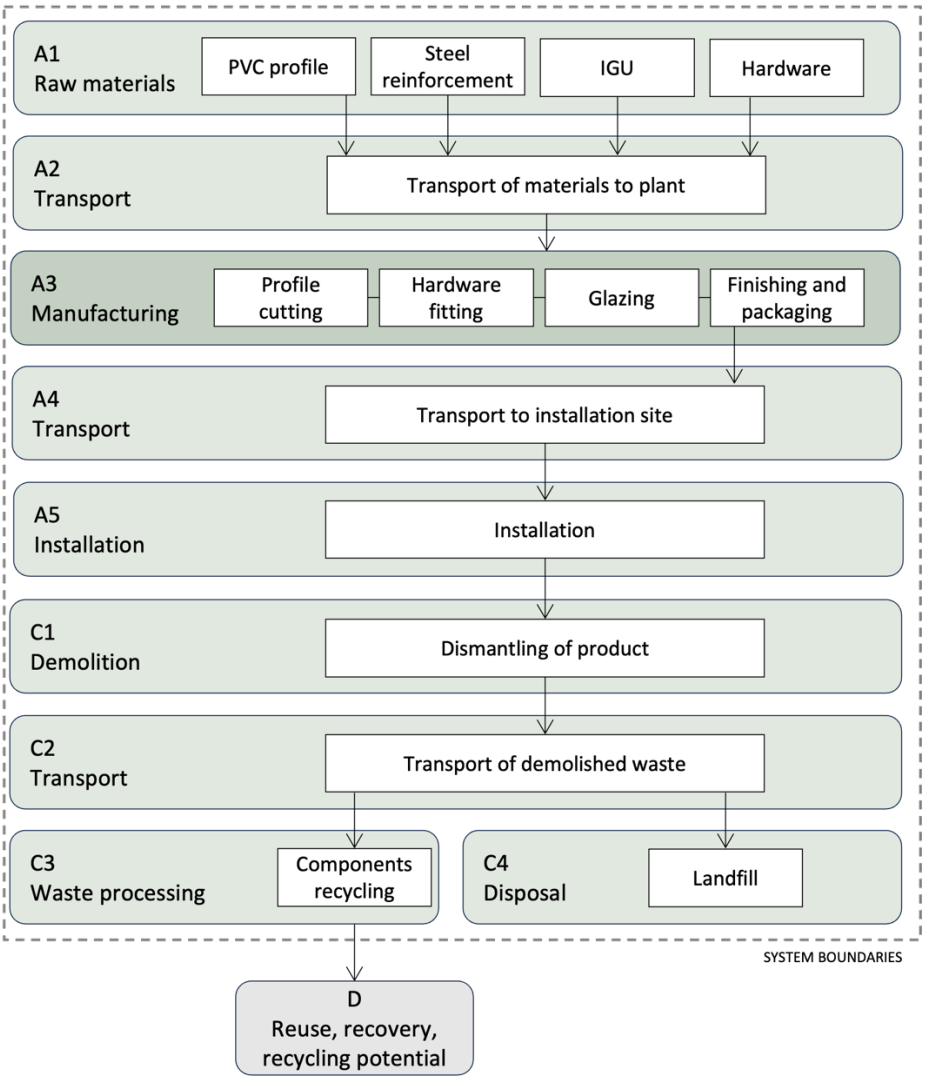
D: Beyond product life cycle

Module D is calculated based on the scenarios set in modules A5 and C1-C4. A recycling efficiency of 90% is applied to all secondary materials (EN 17213), with a quality factor of 1.

The following life-cycle stages are not considered:

- Use stage (B-modules): not declared, as the application and the respective maintenance and repair activities differ depending on the project

Process flow diagram:



More information:

- Cut-off criteria: the inventory data include a minimum of 99% of total inflows (mass and energy) per unit process and 95% of total inflows (mass and energy) per life-cycle stages A1-A3. Data has been collected to the best of knowledge of the manufacturer. The following flows are cut-off due to their expected negligible effects on the overall results:
  - Raw materials packaging
  - Product packaging: LLDPE stretch film, PP strapping and steel clamps
  - Ancillary materials and electricity for power tools used for installation

- The production of capital equipment, construction activities, and infrastructure, maintenance and operation of capital equipment, personnel-related activities, energy and water use related to company management and sales activities are excluded.

- Allocation: co-product allocation is not applied as it is not relevant; electricity consumption and solid waste are allocated based on mass (per m² based on the total production volume of windows and doors); the burden of production offcuts remains fully within the system boundaries of the studied product (modules A1-A3), i.e. they are considered as waste, but not co-product; the potential benefits of recycling are reported in module D

- Secondary materials are not used as input: no supplier evidence of secondary (pre- or post-consumer) content in the profiles, steel, hardware or glass is available, so SM is declared as zero.

- Inherent energy content: the net calorific value embodied in the product is 162.8 MJ/m² (non-renewable, PVC-U profiles at 21 MJ/kg) and in the packaging 28.9 MJ/m² (renewable, plywood rack at 14 MJ/kg), i.e. 191.7 MJ per declared unit in total

- To model the production emissions, the 2023 Bulgarian residual mix was used, as the latest available mix in ecoinvent (based on 2023 AIB data). Its CO_2 intensity equals 0.639 kg CO_2e/kWh.

- Electricity in background datasets (ecoinvent v3.11) and in modules A4, A5, C1-C4 and D is modelled with the consumption mixes (market datasets) of the respective regions; the electricity credits in module D substitute the European grid mix. The upstream PVC-U profile EPDs apply residual grid mix in the foreground system.

- The data quality rating outlined in the UN Environment Global Guidance on LCA database development as referred to in appendix E of EN 15804+A2 was applied.

- The data collection period of primary data is based on one-year average for 2024.

- The data quality information has been provided according to the requirements of EN 15941.

- Data quality regarding primary data is considered as “Very good”, whereas quality regarding secondary data is mostly considered as “Good”. The PVC-U profiles are modelled with the manufacturer’s own upstream EPDs. The IGU, contributing approx. 42% of GWP-GHG in A1-A3, is modelled with an adapted European ecoinvent v3.11 dataset (secondary data, reference years 1996-2024; glass mass scaled to the declared build-up, krypton replaced by argon) and rated “Good”, as no supplier-specific EPD is available. The hardware datasets are rated “Poor” in precision, as hardware is available only as an aggregated mass and is modelled with generic steel processes; module D datasets are rated “Poor” in precision due to stacked generic assumptions. The quantities of steel reinforcement and hardware are based on the bill of materials and the verified annual output rather than on purchase records, which exceed the calculated consumption (closing stock); the confirmation of year-end stock balances is an open data-quality item. No compensation was applied, but representativeness will be improved in future updates once newer data become available.

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

	Product stage			Distribution/ installation stage			Use stage						End-of-life stage				Beyond product life cycle
	Raw material supply	Transport	Manufacturing	Transport	Construction installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential
Module	**A1**	**A2**	**A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
Modules declared	X	X	X	X	X	ND	ND	ND	ND	ND	ND	ND	X	X	X	X	X
Geography	EU	EU	BG	EU	EU	-	-	-	-	-	-	-	EU	EU	EU	EU	EU
Share of primary data*	7.1%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – products	-0.4% / +27.8%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – sites	ND			-	-	-	-	-	-	-	-	-	-	-	-	-	-

* The share of primary data is calculated based on GWP-GHG results. It is a simplified indicator for data quality that supports the use of more primary data, to increase the representativeness of and comparability between EPDs. Note that the indicator does not capture all relevant aspects of data quality and is not comparable across product categories.

Share of primary data of GWP-GHG results for A1-A3 is evaluated as follows:

Process	Source type	Source	Reference year	Data category	Share of primary data
PVC-U profile production (A1)	EPD	EPD-IES-0026777:001	2025	primary	6.03%
Production of other raw materials (A1)	database	ecoinvent	1990-2024	secondary	0.00%
Materials transport (A2)	collected data	EPD Owner	2024	primary	0.18%
Electricity for manufacturing (A3)	collected data	EPD Owner	2024	primary	0.89%
Total share of primary data, of GWP-GHG results for A1-A3					7.10%

ENVIRONMENTAL PERFORMANCE

LCA results of the product(s) - main environmental performance results

The results are presented per declared unit (1 m² of window) for the representative product WP5000 single-sash, inward-opening window, as aggregated for modules A1-A3 and individually for modules A4, A5, C1-C4 and D. Results for the other window configurations, with white and with laminated profiles, deviate from the representative product by -0.4% to +27.8% in GWP-GHG (see variation – products). The estimated impact results are only relative statements, which do not indicate the endpoints of the impact categories, exceeding threshold values, safety margins and/or risks.

The results of the EoL stage (modules C1-C4) should be considered when using the results of the product stage (modules A1-A3).

Mandatory impact category indicators according to EN 15804

Results per declared unit									
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-total	kg CO_2 eq.	7.54E+01	1.63E+01	3.37E+00	1.54E-02	7.26E-01	7.53E+00	3.12E-01	-1.76E+01
GWP-fossil	kg CO_2 eq.	7.87E+01	1.63E+01	3.12E-02	1.54E-02	7.26E-01	7.53E+00	3.11E-01	-1.75E+01
GWP-biogenic	kg CO_2 eq.	-3.34E+00	0.00E+00	3.34E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
GWP-luluc	kg CO_2 eq.	7.79E-02	6.08E-03	8.68E-06	1.57E-06	2.30E-04	1.87E-03	1.20E-04	-1.47E-02
ODP	kg CFC 11 eq.	5.51E-06	3.70E-07	3.51E-10	2.28E-10	1.59E-08	4.11E-08	5.16E-09	-2.11E-06
AP	mol H^+ eq.	8.18E-01	3.97E-02	3.30E-04	1.40E-04	1.47E-03	8.73E-03	1.41E-03	-7.25E-02
EP-freshwater	kg P eq.	3.07E-03	1.30E-04	4.48E-07	5.38E-08	5.26E-06	5.82E-05	2.21E-06	-9.30E-04
EP-marine	kg N eq.	1.06E-01	1.02E-02	1.60E-04	6.39E-05	3.40E-04	2.00E-03	5.50E-04	-1.27E-02
EP-terrestrial	mol N eq.	2.42E+00	1.13E-01	1.68E-03	7.00E-04	3.76E-03	2.22E-02	5.91E-03	-1.56E-01
POCP	kg NMVOC eq.	3.62E-01	6.64E-02	4.20E-04	2.10E-04	2.36E-03	7.18E-03	2.09E-03	-5.60E-02
ADP-minerals&metals*	kg Sb eq.	1.82E-03	4.87E-05	6.64E-08	5.66E-09	2.55E-06	1.85E-05	3.84E-07	-2.20E-04
ADP-fossil*	MJ	1.13E+03	2.48E+02	2.81E-01	2.00E-01	1.02E+01	2.11E+01	4.54E+00	-2.86E+02
WDP*	m^3	3.53E+01	1.44E+00	6.82E-02	5.20E-04	5.22E-02	8.73E+00	2.00E-01	-7.55E+00
Acronyms	GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption								

** Disclaimer: The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.*

Additional mandatory and voluntary impact category indicators

Results per declared unit									
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-GHG[1]	kg CO_2 eq.	7.87E+01	1.63E+01	3.12E-02	1.54E-02	7.26E-01	7.53E+00	3.12E-01	-1.76E+01

Resource use indicators[2]

Results per declared unit									
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	MJ	1.66E+02	3.82E+00	7.37E-03	1.26E-03	1.87E-01	2.98E+00	5.80E-02	-3.44E+01
PERM	MJ	2.89E+01	0.00E+00	-1.96E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ	1.95E+02	3.82E+00	-1.96E+01	1.26E-03	1.87E-01	2.98E+00	5.80E-02	-3.44E+01
PENRE	MJ	8.58E+02	2.48E+02	2.81E-01	2.00E-01	1.02E+01	2.11E+01	4.54E+00	-2.86E+02
PENRM	MJ	1.63E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-1.34E+02	0.00E+00	0.00E+00
PENRT	MJ	1.02E+03	2.48E+02	2.81E-01	2.00E-01	1.02E+01	-1.13E+02	4.54E+00	-2.86E+02
SM	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NRSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	m^3	8.47E-01	3.35E-02	4.00E-04	1.28E-05	1.21E-03	1.95E-01	-6.56E-02	-1.99E-01
Acronyms	PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy re-sources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water								

[1] This indicator accounts for all greenhouse gases except biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. As such, the indicator is identical to GWP-total except that the CF for biogenic CO_2 is set to zero.
[2] Primary energy indicators reported according to Annex 3, Option B (PCR 2019:14)

Waste indicators

Results per declared unit									
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
Hazardous waste disposed	kg	8.58E+00	2.58E-01	1.14E-02	1.80E-04	9.29E-03	1.77E+00	5.56E-03	-2.12E+00
Non-hazardous waste disposed	kg	9.85E+01	2.39E+00	2.08E+00	1.31E-03	1.15E-01	1.54E+01	4.70E+01	-7.97E+00
Radioactive waste disposed	kg	1.82E-03	6.82E-05	8.01E-08	2.10E-08	3.70E-06	5.94E-05	8.53E-07	-5.50E-04

Output flow indicators

Results per declared unit									
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
Components for re-use	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Material for recycling	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.37E+01	0.00E+00	0.00E+00
Materials for energy recovery	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy, electricity	MJ	0.00E+00	0.00E+00	9.82E+00	0.00E+00	0.00E+00	3.04E+01	0.00E+00	0.00E+00
Exported energy, thermal	MJ	0.00E+00	0.00E+00	9.82E+00	0.00E+00	0.00E+00	3.04E+01	0.00E+00	0.00E+00

ADDITIONAL ENVIRONMENTAL INFORMATION

As the default EoL scenario is a mix of different disposal routes, the 100% scenarios of relevance for the intended market in modules C1-C4 and D are presented. In the incineration scenario only the combustible PVC-U fraction is incinerated, whereas the non-combustible steel reinforcement, hardware and glass remain on the recycling route. The non-zero values in module D of the 100% landfill scenario correspond to the credits from the incineration of the wood packaging in A5.

100% recycling scenario

Results per declared unit						
Indicator	**Unit**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-total	kg CO_2 eq.	1.54E-02	6.88E-01	1.97E+00	0.00E+00	-2.89E+01
GWP-fossil	kg CO_2 eq.	1.54E-02	6.88E-01	1.96E+00	0.00E+00	-2.89E+01
GWP-biogenic	kg CO_2 eq.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
GWP-luluc	kg CO_2 eq.	1.57E-06	2.10E-04	2.80E-03	0.00E+00	-2.22E-02
ODP	kg CFC 11 eq.	2.28E-10	1.51E-08	2.61E-08	0.00E+00	-5.85E-06
AP	mol H^+ eq.	1.40E-04	1.40E-03	8.93E-03	0.00E+00	-1.32E-01
EP-freshwater	kg P eq.	5.38E-08	4.98E-06	9.27E-05	0.00E+00	-1.46E-03
EP-marine	kg N eq.	6.39E-05	3.20E-04	1.85E-03	0.00E+00	-2.27E-02
EP-terrestrial	mol N eq.	7.00E-04	3.57E-03	2.07E-02	0.00E+00	-2.94E-01
POCP	kg NMVOC eq.	2.10E-04	2.24E-03	6.72E-03	0.00E+00	-1.04E-01
ADP-minerals&metals*	kg Sb eq.	5.66E-09	2.42E-06	2.17E-05	0.00E+00	-4.70E-04
ADP-fossil*	MJ	2.00E-01	9.70E+00	2.72E+01	0.00E+00	-5.02E+02
WDP*	m^3	5.20E-04	4.95E-02	7.23E-01	0.00E+00	-1.60E+01
GWP-GHG	kg CO_2 eq.	1.54E-02	6.88E-01	1.97E+00	0.00E+00	-2.90E+01

100% incineration (combustibles) / recycling (inert materials) scenario

Results per declared unit						
Indicator	**Unit**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-total	kg CO_2 eq.	1.54E-02	7.80E-01	1.69E+01	0.00E+00	-2.22E+01
GWP-fossil	kg CO_2 eq.	1.54E-02	7.80E-01	1.69E+01	0.00E+00	-2.21E+01
GWP-biogenic	kg CO_2 eq.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
GWP-luluc	kg CO_2 eq.	1.57E-06	2.40E-04	2.37E-03	0.00E+00	-2.30E-02
ODP	kg CFC 11 eq.	2.28E-10	1.71E-08	8.41E-08	0.00E+00	-3.54E-07
AP	mol H^+ eq.	1.40E-04	1.58E-03	1.55E-02	0.00E+00	-1.10E-01
EP-freshwater	kg P eq.	5.38E-08	5.64E-06	7.15E-05	0.00E+00	-1.28E-03
EP-marine	kg N eq.	6.39E-05	3.60E-04	3.81E-03	0.00E+00	-1.72E-02
EP-terrestrial	mol N eq.	7.00E-04	4.04E-03	4.21E-02	0.00E+00	-2.40E-01
POCP	kg NMVOC eq.	2.10E-04	2.53E-03	1.37E-02	0.00E+00	-6.58E-02
ADP-minerals&metals*	kg Sb eq.	5.66E-09	2.74E-06	2.80E-05	0.00E+00	-3.10E-04
ADP-fossil*	MJ	2.00E-01	1.10E+01	3.32E+01	0.00E+00	-3.09E+02
WDP*	m^3	5.20E-04	5.61E-02	2.07E+01	0.00E+00	-1.02E+01
GWP-GHG	kg CO_2 eq.	1.54E-02	7.80E-01	1.69E+01	0.00E+00	-2.22E+01

100% landfill scenario

Results per declared unit						
Indicator	**Unit**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-total	kg CO_2 eq.	1.54E-02	6.88E-01	0.00E+00	8.06E-01	-1.57E+00
GWP-fossil	kg CO_2 eq.	1.54E-02	6.88E-01	0.00E+00	8.06E-01	-1.57E+00
GWP-biogenic	kg CO_2 eq.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
GWP-luluc	kg CO_2 eq.	1.57E-06	2.10E-04	0.00E+00	2.20E-04	-2.55E-03
ODP	kg CFC 11 eq.	2.28E-10	1.51E-08	0.00E+00	9.43E-09	-4.77E-08
AP	mol H^+ eq.	1.40E-04	1.40E-03	0.00E+00	2.57E-03	-5.54E-03
EP-freshwater	kg P eq.	5.38E-08	4.98E-06	0.00E+00	4.01E-06	-8.59E-05
EP-marine	kg N eq.	6.39E-05	3.20E-04	0.00E+00	1.03E-03	-8.40E-04
EP-terrestrial	mol N eq.	7.00E-04	3.57E-03	0.00E+00	1.08E-02	-9.40E-03
POCP	kg NMVOC eq.	2.10E-04	2.24E-03	0.00E+00	3.88E-03	-3.51E-03
ADP-minerals&metals*	kg Sb eq.	5.66E-09	2.42E-06	0.00E+00	6.92E-07	-1.18E-05
ADP-fossil*	MJ	2.00E-01	9.70E+00	0.00E+00	8.31E+00	-3.11E+01
WDP*	m^3	5.20E-04	4.95E-02	0.00E+00	3.65E-01	-5.57E-01
GWP-GHG	kg CO_2 eq.	1.54E-02	6.88E-01	0.00E+00	8.07E-01	-1.57E+00

ABBREVIATIONS

CEN	European Committee for Standardization
CPC	Central product classification
EF	Environmental Footprint
EN	European Norm (Standard)
EoL	End-of-Life
GHG	Greenhouse Gas
GHS	Globally harmonized system of classification and labelling of chemicals
GPI	General Programme Instructions
ISO	International Organization for Standardization
LHV	Lower Heating Value
ND	Not Declared
PVC	Polyvinylchloride
SVHC	Substances of Very High Concern
EPDM	Ethylene propylene diene monomer (rubber)
IGU	Insulating glass unit
LLDPE	Linear low-density polyethylene
PP	Polypropylene
RSL	Reference service life

REFERENCES

- ISO 14040:2006 Environmental management - Life cycle assessment - Principles and framework
- ISO 14044:2006 Environmental management - Life cycle assessment - Requirements and guidelines
- ISO 14020:2000 Environmental labels and declarations - General principles
- ISO 14025:2006 Environmental labels and declarations - Type III environmental declarations
- ISO 14025:2026 Environmental statements and programmes for products - Environmental product declarations (EPDs)
- General Programme Instructions (GPI) of The International EPD® System v.5.0.1
- EN 15804:2012+A2:2019/AC:2021 Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products
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- PCR 2019:14 Construction products, v 2.0.1 (The International EPD® System)
- EN 17213:2020+A1:2025 Windows and doors - Environmental Product Declarations - Product category rules for windows and pedestrian doorsets
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- greentability Ltd., Life Cycle Assessment Report – PVC-U Windows and Doors with Triple Insulating Glass Unit, v1.2, October 2026
- Weiss-Profil Ltd., EPD White PVC-U Profile, EPD-IES-0026777:001; EPD Laminated PVC-U Profile, EPD-IES-0026778:001 (The International EPD® System)

VERSION HISTORY

Version 1, 2026-11-11
- Original Version of the EPD

Version 2, 2026-11-19
- Differences versus the previously published version: update of reference to ISO 14025:2026

EPD
INTERNATIONAL EPD SYSTEM
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