Type III Environmental Product Declaration No. 872/2025

Issuance date: 11.11.2025
Validation: 11.12.2025
Validity date: 11.11.2030

Internal window, door and partition wall systems

Owner of the EPD:
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ITB is the verified member of The European Platform for EPD program operators and LCA practitioner www.eco-platform.org

Basic information

This declaration is the Type III Environmental Product Declaration (EPD) based on EN 15804+A2 and verified according to ISO 14025 by an external auditor. It contains the information on the impacts of the declared construction materials on the environment and their aspects verified by the independent body according to ISO 14025. Basically, comparison or evaluation of EPD data is possible only if all the compared data were created according to EN 15804+A2.

Life cycle analysis (LCA): A1-A5, C1-C4 and D modules in accordance with EN 15804+A2 (Cradle-to-Gate with options)

The year of preparing the EPD: 2025

Product standard: EN 14351-2:2018, EN 16034:2014, EAD 21005-00-0505

Service Life: 50 years for standard product

PCR: ITB-PCR A (PCR based on EN 15804+A2)

Declared unit: 1 kg

Reasons for performing LCA: B2B

Representativeness: Polish, European, 2024

MANUFACTURER

Figure 1. The view of PROCURAL sp. z o.o. in Cekanowo, Poland

PROCURAL sp. z o.o., formerly known as Ponzio Polska, changed its name in early 2024. As a new brand, they continue to consistently develop their range of aluminium systems, which have gained market recognition over the past 30 years and are synonymous with high quality. Systematic investments in infrastructure have ensured the company's dynamic growth in recent years, increasing its capacity and efficiency. A highly qualified staff is available at every stage of projects. The company has extensive experience in creating and designing modern and technologically advanced aluminium construction systems, implementing projects both in Poland and abroad. The company collaborates with architects, manufacturers, general contractors, and individual investors.

PRODUCTS DESCRIPTION AND APPLICATION

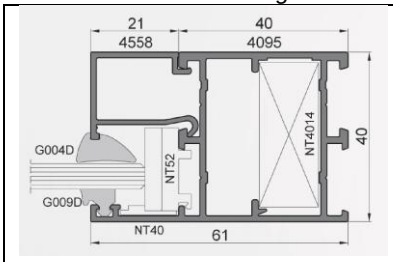
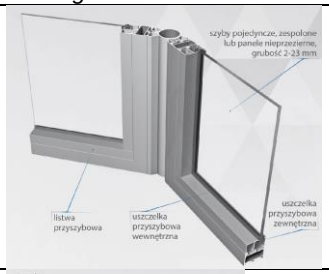
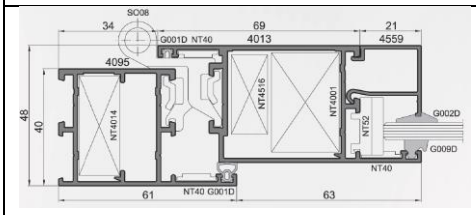
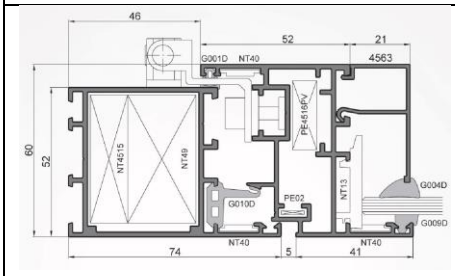
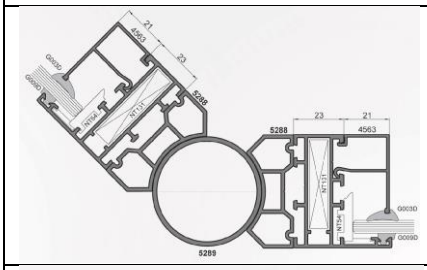
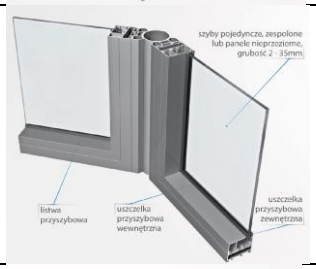
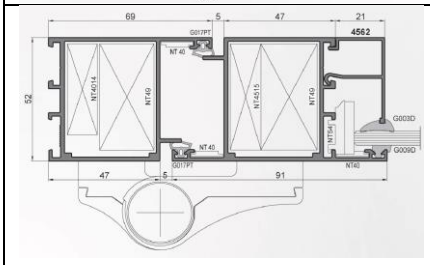
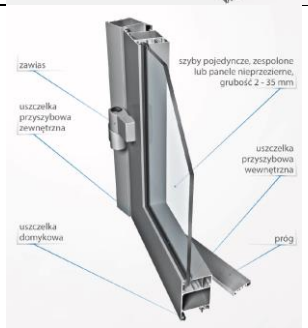
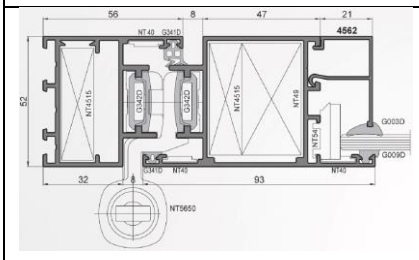
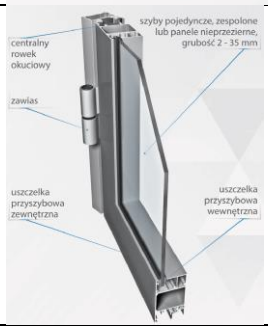
PROCURAL sp. z o.o. offers a wide range of aluminium systems, including internal window, door and partition wall systems, which are the subject of this EPD. Table 1 presents the names of the components included in this product group along with their descriptions, Table 2 presents drawings of component fragments and their technical drawings.

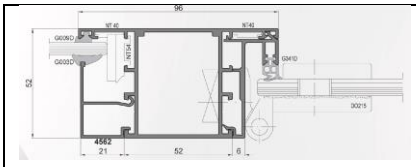
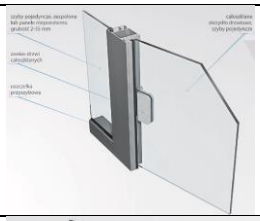
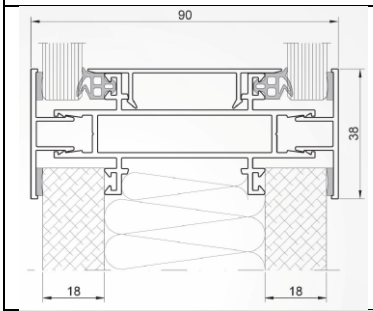
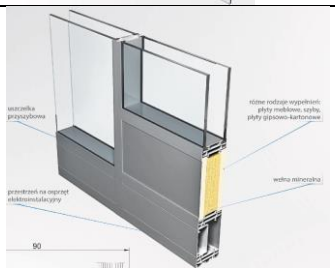
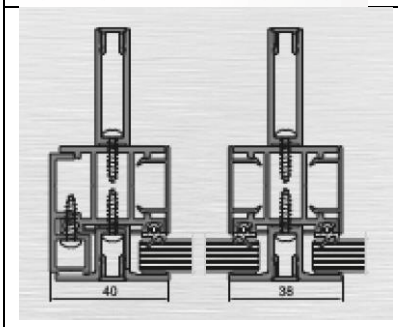
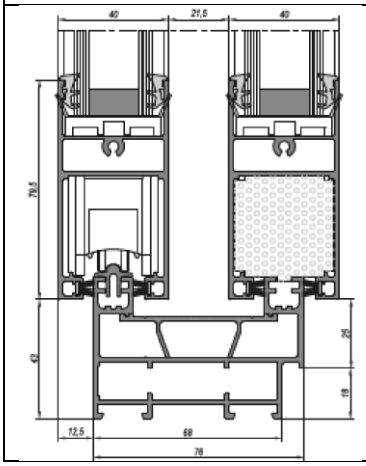
More information about the systems produced can be found on the manufacturer's website.

Table 1. Internal window, door and partition wall systems

PROCURAL PE40	Interior wall
PROCURAL PE40	Interior doors
PROCURAL PE50	Interior wall
PROCURAL PE50	Interior doors
PROCURAL PE50	Smoke-proof interior doors
PROCURAL OF90	Interior wall
PROCURAL OF90 IW	Interior wall
PROCURAL SL680LT	Sliding Window Interior

Table 2. Technical drawings and drawings of component fragments of internal window, door and partition wall systems

		**PROCURAL PE40 WALL**
		**DOOR PROCURAL PE40**
		**WINDOW PROCURAL PE40**
		**PROCURAL PE50 WALL**
		**DOOR PROCURAL PE50**
		**SMOKE-TIGHT DOORS PROCURAL PE50**

		**ALL-GLASS DOOR PROCURAL PE50**
		**PROCURAL OF90 WALL**
		**LOFT WALL PROCURAL OF90 IW**
		**SLIDING WINDOW PROCURAL SL680**

LIFE CYCLE ASSESSMENT (LCA) – general rules applied

Declared Unit

The declared unit is the production of 1 kg of a group of aluminium products (internal window, door and partition wall systems), which is representative of a wide range of products.

Note: Conversion to m^2 of product can be done by converting the value of the impacts of 1 kg by the specific mass of 1 m^2.

Allocation

The allocation rules used for this EPD are based on general ITB PCR A. Production of internal window, door and partition wall systems is a line process executed by of PROCURAL sp. z o.o. in plant located in Cekanowo (Poland). Allocation was done on product mass basis. All impacts from raw materials extraction and processing are allocated in module A1 of the LCA. Impacts related to

raw material transportation are allocated to module A2 of the LCA. Impacts from the global line production of PROCURAL sp. z o.o. were inventoried and were allocated internal window, door and partition wall systems. Water and energy consumption, associated emissions and generated wastes are allocated to module A3. Packaging materials were taken into consideration.

System limits

The life cycle analysis (LCA) of the declared products covers: product stage – modules A1-A5, end of life – modules C1-C4 and benefits and loads beyond the system boundary – module D (cradle-to-gate with options) in accordance with EN 15804+A2 and ITB PCR A. Energy and water consumption, emissions as well as information on generated wastes were inventoried and were included in the calculations. It can be assumed that the total sum of omitted processes does not exceed 5% of all impact categories. In accordance with EN 15804+A2, machines and facilities (capital goods) required for the production as well as transportation of employees were not included in LCA.

Modules A1 and A2: *Raw materials supply and transport*

Modules A1 and A2 present the processing of input materials and their transport to the production site. The product includes aluminium profiles, gaskets, powder paints, and other. Packaging materials are used. Suppliers are primarily domestic. Transportation is by truck. Polish and European fuel averages were used for calculations.

Module A3: *Production*

The production process at the plant begins with the delivery of raw aluminium profiles, which are stored. Some profiles are crimped with a thermal break. Then, the thermal break profiles, along with the remaining raw profiles, undergo a cleaning process. Subsequent processes include chromicizing, powder painting, and polymerization or anodizing. The finished profiles are then transferred to the warehouse, where they are packaged and shipped to customers. A diagram of the production process is shown in Fig. 2.

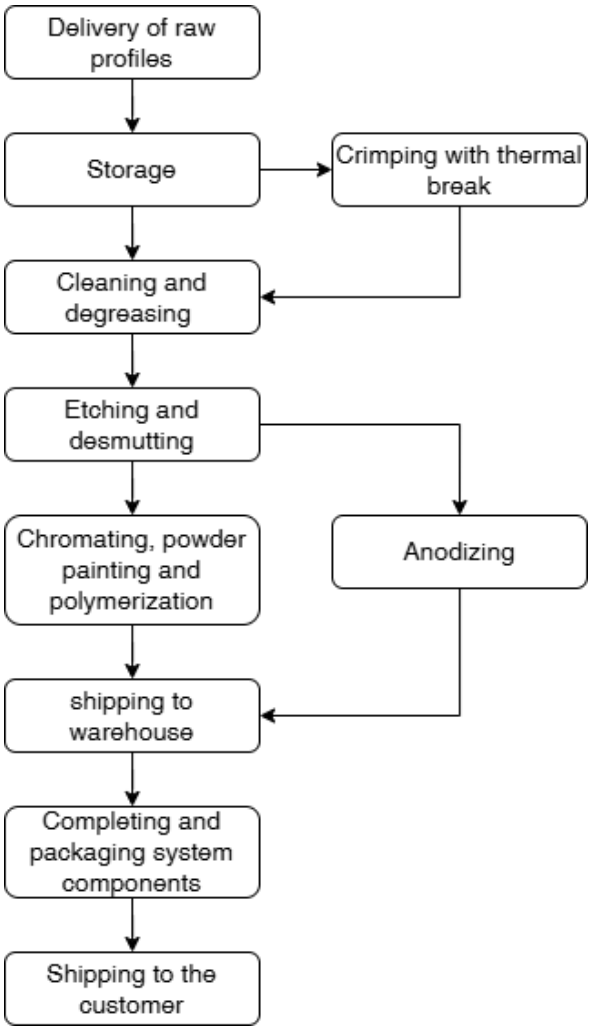


Figure 2. The scheme of production by PROCURAL sp. z o.o. in Cekanowo

Module A4 and A5: *Transport to consumer and installation*

Transport of the products from plant to the recipient is carried out using trucks. Vehicle transport at distance 100 km is considered (emission standard: Euro 5) with 100% load capacity. Packaging material is sent for either incineration or recycling according to EUROSTAT data for packaging waste. It was assumed that the products would be installed using electric power tools (approx. 6 kWh/ton).

Modules C1-C4 and D: *End-of-life (EoL)*

It is assumed that at the end-of-life, 100% of external window, partition wall and door systems from aluminium are demounted using electric tools. Materials recovered from dismantled products are recycled, recycled (module C3) and landfilled (module C4) according to the realistic treatment practice (mass allocation) of industrial waste what is presented in Table 3, 95% of the resulting aluminium undergo recycling after sorting and cutting while the remaining 5% is forwarded to landfill as mixed construction and demolition wastes. A potential credit resulting from the recycling of aluminium are presented in module D. Utilization of packaging material which constitute less than 1% of the total system flows was not taken into consideration.

Table 3. End-of-life scenario for external window, partition wall and door systems

Material	Waste processing		Landfilling
	Material recovery (reuse, recycling)	**Reycling**	
aluminium	95%	0%	5%
Plastics	90%	80%	20%

Electricity at end-of-life (module C) has been modelled using an average Polish electricity mix as the location where the product reaches end-of-life is unknown.

Data quality

The data selected for LCA originate from ITB-LCI questionnaires completed by manufacturer and verified during data audit. No data collected is older than five years and no generic datasets used are older than ten years. The values determined to calculate A1-A3 originate from verified Process LCI inventory data from manufacturing plant. A1 values were prepared considering input products characteristics and are based on Ecoinvent 3.11 data (EN 15804+A2 method) and data from EPDs provided by suppliers (mainly for aluminium profiles). The energy consumption of production and its impact on the production lines (profiles) was inventoried and calculated. For aluminium, the weighted average carbon footprint declared by suppliers was used. In accordance with Annex E of the EN 15804+A2, a data quality assessment was performed. For technical representativeness, processes with a quality level of "very good" account for 99% of the value for climate change indicator. For geographical and time representativeness, processes level of "very good" is obtained.

Data collection period

The data for manufacture of the declared products refer to period between 01.01.2024 – 31.12.2024 (1 year). The life cycle assessments were prepared for Poland and Europe as reference area.

Assumptions and estimates

The impacts of internal window, door and partition wall systems were aggregated using weighted average.

Calculation rules

LCA was performed using ITB-LCA tool developed in accordance with EN15804+A2. Emission of greenhouse gases was calculated using the IPCC GWP method with a 100-year horizon. Emission of acidifying substances, emission of substances to water contributing to oxygen depletion, emission of gases that contribute to the creation of ground-level ozone, abiotic depletion, and ozone depletion emissions where all calculated with the EF 3.1. method. No mass balance approach was used. Biogenic content less than 5%.

Databases

The data for the processes come from the following databases: Ecoinvent v.3.11, specific EPDs, ITB-Database. Specific data quality analysis was a part of external audit.

Additional information

Polish electricity (Ecoinvent v 3.11 supplemented by actual national KOBiZE data) emission factor used is 0,597 kg CO_2/kWh (national data for 2023 released in 2024). As a general rule, no particular environmental or health protection measures other than those specified by law are necessary.

LIFE CYCLE ASSESSMENT (LCA) – Results

Declared unit

The declaration refers to declared unit (DU) – 1 kg of internal window, door and partition wall systems produced by PROCURAL sp. z o.o. in Cekanowo. The following life cycle modules (Table 4) were included in the analysis. The following tables 5-8 show the environmental impacts of the life cycle of selected modules (A1-A5, C1-C4 and D).

Table 4. System boundaries for the environmental characteristic of the product

Environmental assessment information (MD – Module Declared, MND – Module Not Declared, INA – Indicator Not Assessed)																
Product stage			Construction process		Use stage							End of life				Benefits and loads beyond the system boundary
Raw material supply	Transport	Manufacturing	Transport to construction site	Construction-installation process	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction 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**
MD	**MD**	**MD**	**MD**	**MD**	**MND**	**MND**	**MND**	**MND**	**MND**	**MND**	**MND**	**MD**	**MD**	**MD**	**MD**	**MD**

Table 5. Life cycle assessment (LCA) results for specific product – environmental impacts (DU: 1 kg)

Indicator	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D
Global Warming Potential	eq. kg CO_2	6.72E+00	3.98E-02	3.21E-01	7.16E+00	1.67E-02	6.85E-03	2.74E-03	8.34E-03	8.16E-02	7.19E-03	-1.11E+00
Greenhouse potential - fossil	eq. kg CO_2	6.73E+00	3.98E-02	3.21E-01	7.09E+00	1.66E-02	6.85E-03	2.74E-03	8.31E-03	7.86E-02	7.19E-03	-1.08E+00
Greenhouse potential - biogenic	eq. kg CO_2	-4.74E-03	2.54E-05	3.79E-04	-4.33E-03	5.68E-05	1.85E-05	7.39E-06	2.84E-05	2.99E-03	5.13E-06	-1.03E-02
Global warming potential - land use and land use change	eq. kg CO_2	8.03E-02	1.32E-05	5.69E-05	8.04E-02	6.52E-06	1.07E-06	4.28E-07	3.26E-06	3.73E-05	3.85E-07	-1.44E-02
Stratospheric ozone depletion potential	eq. kg CFC 11	4.49E-07	8.66E-10	1.07E-08	4.60E-07	3.85E-09	3.77E-11	1.51E-11	1.92E-09	7.80E-01	1.73E-11	-8.11E-08
Soil and water acidification potential	eq. mol H+	6.02E-02	1.28E-04	2.66E-03	6.30E-02	6.75E-05	7.25E-05	2.90E-05	3.37E-05	6.08E-04	4.78E-06	-1.05E-02
Eutrophication potential - freshwater	eq. kg P	3.52E-03	2.71E-06	3.78E-04	3.90E-03	1.12E-06	1.18E-05	4.72E-06	5.59E-07	8.89E-06	7.16E-08	-5.33E-04
Eutrophication potential - seawater	eq. kg N	7.21E-03	4.30E-05	3.85E-04	7.64E-03	2.04E-05	1.03E-05	4.10E-06	1.02E-05	1.83E-03	1.59E-05	-1.01E-03
Eutrophication potential - terrestrial	eq. mol N	7.30E-02	4.67E-04	3.40E-03	7.68E-02	2.22E-04	8.95E-05	3.58E-05	1.11E-04	3.59E-03	1.95E-05	-9.94E-03
Potential for photochemical ozone synthesis	eq. kg NMVOC	2.48E-02	1.94E-04	1.66E-03	2.67E-02	6.80E-05	2.57E-05	1.03E-05	3.40E-05	7.46E-04	8.46E-06	-3.39E-03
Potential for depletion of abiotic resources - non-fossil resources	eq. kg Sb	2.60E-05	1.37E-07	2.24E-07	2.63E-05	5.89E-08	2.58E-09	1.03E-09	2.95E-08	1.63E-07	1.51E-09	-6.79E-06
Abiotic depletion potential - fossil fuels	MJ	9.58E+01	5.64E-01	1.14E+01	1.08E+02	2.47E-01	1.08E-01	4.33E-02	1.23E-01	3.29E-01	1.49E-02	-1.38E+01
Water deprivation potential	eq. m^3	3.26E+01	2.95E-03	9.12E-02	3.27E+01	1.14E-03	2.07E-03	8.27E-04	5.70E-04	7.39E-03	7.08E-05	-1.09E+00

Table 6. Life cycle assessment (LCA) results for specific product – additional impacts indicators (DU: 1 kg)

Indicator	Unit	A1-A3	A4-A5	C1-C4	D
Particulate matter	disease incidence	INA	INA	INA	INA
Potential human exposure efficiency relative to U235	eg. kBq U235	INA	INA	INA	INA
Potential comparative toxic unit for ecosystems	CTUe	INA	INA	INA	INA
Potential comparative toxic unit for humans (cancer effects)	CTUh	INA	INA	INA	INA
Potential comparative toxic unit for humans (non-cancer effects)	CTUh	INA	INA	INA	INA
Potential soil quality index	dimensionless	INA	INA	INA	INA

Table 7. Life cycle assessment (LCA) results for specific product - the resource use (DU: 1 kg)

Indicator	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D
Consumption of renewable primary energy - excluding renewable primary energy sources used as raw materials	MJ	3.12E+01	9.18E-03	3.16E-01	3.16E+01	3.54E-03	8.90E-03	3.56E-03	1.77E-03	5.52E-02	2.24E-04	-4.16E+00
Consumption of renewable primary energy resources used as raw materials	MJ	3.77E-01	0.00E+00	0.00E+00	3.77E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total consumption of renewable primary energy resources	MJ	3.16E+01	9.18E-03	3.16E-01	3.19E+01	3.54E-03	8.90E-03	3.56E-03	1.77E-03	5.52E-02	2.24E-04	-4.16E+00
Consumption of non-renewable primary energy - excluding renewable primary energy sources used as raw materials	MJ	9.68E+01	5.64E-01	7.81E+00	1.05E+02	2.47E-01	1.08E-01	4.33E-02	1.23E-01	-8.22E-01	-2.33E+00	-1.56E+01
Consumption of non-renewable primary energy resources used as raw materials	MJ	2.99E+00	0.00E+00	3.60E+00	6.58E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.86E+00	2.35E+00	-1.86E+00
Total consumption of non-renewable primary energy resources	MJ	9.98E+01	5.64E-01	1.14E+01	1.12E+02	2.47E-01	1.08E-01	4.33E-02	1.23E-01	3.29E-01	1.49E-02	-1.38E+01
Consumption of secondary materials	kg	2.17E-01	2.52E-04	1.23E-03	2.19E-01	8.27E-05	9.40E-06	3.76E-06	4.14E-05	5.30E-02	5.40E-06	-5.74E-02
Consumption of renew. secondary fuels	MJ	5.64E-03	3.31E-06	2.38E-06	5.65E-03	9.11E-07	4.75E-08	1.90E-08	4.56E-07	3.72E-07	1.01E-07	-3.01E-05
Consumption of non-renewable secondary fuels	MJ	5.66E-03	0.00E+00	0.00E+00	5.66E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.83E-06	0.00E+00	-1.03E-03
Net consumption of freshwater	m^3	3.27E+00	6.81E-05	3.30E-03	3.27E+00	3.10E-05	3.11E-04	1.24E-04	1.55E-05	2.33E-04	-2.22E-04	-2.39E-02

Table 8. Life cycle assessment (LCA) results for specific product – waste categories and output flows (DU: 1 kg)

Indicator	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D
Hazardous waste	kg	9,55E-01	8,08E-04	4,94E-02	1,00E+00	2,77E-04	8,38E-04	3,35E-04	1,38E-04	7,91E-04	2,64E-05	-2,40E-01
Non-hazardous waste	kg	3,10E+00	1,73E-02	1,88E+00	5,01E+00	4,92E-03	5,65E-02	2,26E-02	2,46E-03	7,86E-02	2,98E-01	-2,21E-01
Radioactive waste	kg	1,92E+19	1,66E-07	8,06E-07	1,92E+19	1,84E-08	1,62E-08	6,49E-09	9,21E-09	1,39E-06	3,69E-09	-1,97E-04
Components for re-use	kg	1,37E-02	0,00E+00	0,00E+00	1,37E-02	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	1,47E-01	6,74E-06	2,28E-02	1,70E-01	7,64E-07	7,26E-07	2,90E-07	3,82E-07	4,22E-05	2,52E-07	-1,18E-04
Materials for energy recovery	kg	8,68E-06	3,58E-08	4,79E-03	4,80E-03	6,18E-09	1,17E-09	4,67E-10	3,09E-09	1,38E-08	1,03E-09	-3,37E-07
Exported Energy	MJ	4,97E-01	2,47E-04	1,40E-03	4,99E-01	0,00E+00	3,46E-04	1,38E-04	0,00E+00	6,26E-02	3,15E-06	-8,48E-04

Verification

The process of verification of this EPD is in accordance with ISO 14025 and ISO 21930. After verification, this EPD is valid for a 5-year-period. EPD does not have to be recalculated after 5 years, if the underlying data have not changed significantly.

The basis for LCA analysis was EN 15804+A2 and ITB PCR A
Independent verification corresponding to ISO 14025 (subclause 8.1.3.) ☒ external ☐ internal
External verification of EPD: Halina Prejzner, PhD. Eng. LCI audit and verification: Filip Poznański, M.Sc. Eng. LCA, LCI audit and input data verification: Michał Piasecki, PhD., D.Sc., Eng.

Note 1: The declaration owner has the sole ownership, liability, and responsibility for the information provided and contained in EPD. Declarations of construction products may not be comparable if they do not comply with EN 15804+A2. For further information about comparability, see EN 15804+A2 and ISO 14025.

Note 2: ITB is a public Research Organization and Notified Body (EC Reg. no 1488) to the European Commission and to other Member States of the European Union designated for the tasks concerning the assessment of building products' performance. ITB acts as the independent, third-party verification organization (ISO 17025/17065/17029). ITB-EPD program is recognized and registered member of The European Platform - Association of EPD program operators and ITB-EPD declarations are registered and stored in the international ECO-PORTAL.

Normative references

- ITB PCR A General Product Category Rules for Construction Products
- EN 14351-2:2018 Windows and doors - Product standard, performance characteristics - Part 2: Internal pedestrian doorsets
- ISO 14025:2006, Environmental labels and declarations – Type III environmental declarations – Principles and procedures
- ISO 21930:2017 Sustainability in buildings and civil engineering works – Core rules for environmental product declarations of construction products and services
- ISO 14044:2006 Environmental management – Life cycle assessment – Requirements and guidelines
- ISO 15686-1:2011 Buildings and constructed assets – Service life planning – Part 1: General principles and framework
- ISO 15686-8:2008 Buildings and constructed assets – Service life planning – Part 8: Reference service life and service-life estimation
- EN 15804:2012+A2:2019 Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products
- ISO 14067:2018 Greenhouse gases — Carbon footprint of products — Requirements and guidelines for quantification
- KOBiZE Wskaźniki emisyjności CO_2, SO_2, NO_x, CO i pyłu całkowitego dla energii elektrycznej. December 2024
- https://ecoinvent.org/

LCA, LCI audit and input data verification
Michał Piasecki, PhD. D.Sc. C.E. Eng.
/Qualified electronic signature/

Head of Thermal Physic, Acoustic and Environment Department
Agnieszka Winkler-Skalna, PhD. C.E. Eng.
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CERTIFICATE № 872/2025
of TYPE III ENVIRONMENTAL DECLARATION

Products:
Internal window, door and partition wall systems

Manufacturer:
PROCULAR sp. z o.o.
Cekanowo, Płocka 22, 09-472 Słupno, Poland

confirms the correctness of the data included in the development of
Type III Environmental Declaration and accordance with the requirements of the standard

EN 15804+A2

Sustainability of construction works.
Environmental product declarations.
Core rules for the product category of construction products.

This certificate, issued on 11th November 2025 is valid for 5 years
or until amendment of mentioned Environmental Declaration

Head of the Thermal Physic, Acoustics and Environment Department
Agnieszka Winkler-Skalna, PhD

INSTYTUT TECHNIKI BUDOWLANEJ

Deputy Director for Research and Innovation
Krzysztof Kuczyński, PhD

Warsaw, November 2025