



WIŚNIEWSKI



ENVIRONMENTAL DECLARATION

for Type III Product No. 608/2024

Issuance date: 15.03.2024

Validity date: 15.03.2029

Sectional garage and industrial doors

EPD Owner

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ITB jest zweryfikowanym członkiem Europejskiej Platformy dla operatorów programu EPD i podmiotem stosującym LCA 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-A3, C1-C4 and D modules in accordance with EN 15804+A2 (Cradle-to-Gate with options)

The year of preparing the EPD

2024

Product standard

EN 13241+A2:2016

Service Life

100 years

PCR

ITB-PCR A

Declared unit

1 kg of the sectional garage and industrial doors

Reasons for performing LCA

B2B

Representativeness:

Polish, European

MANUFACTURER

WIŚNIEWSKI is Polish producer of sectional garage doors, steel and aluminium doors and windows (including external and industrial doors) as well as residential and industrial fences, established in 1989. The company encompasses three plants located in Wielogłowy, operating in the areas of garage doors, fences, and joinery. WIŚNIEWSKI possess nearly 2,500 points of sale all over Europe, 27,000 square metres of production area, and employs as many as 2,000 people.



Fig. 1. WIŚNIEWSKI Sp. z o.o. S.K.A. manufacturing plant located in Wielogłowy (Poland).

PRODUCTS DESCRIPTION AND APPLICATION

Garage and industrial doors offer a wide range of products, including: roller shutter gates and sectional gates. We produce in accordance with the latest EN 13241 standard and test products in both domestic and foreign centers.






We have our own lines for the production of segment and aluminum panels, door frames and guides, as well as lines for veneering panels, powder coating plants and galvanizing plants.

We have the widest color palette on the market, matching other products from our portfolio: doors, windows and fences. Our gates can be used in both unheated and heated buildings and in passive buildings. We use automation only from renowned manufacturers, also available in combination with intelligent technologies.

THE SPECIFICATION OF SECTIONAL GARAGE DOORS

Sectional garage door is designed to be used as a vertical partition in general construction and garage buildings. Intended use consists in creating safe access for people and vehicles with accompanying or driving persons. Sectional door operated by an electric drive.

The specification of sectional garage doors offered by WISNIOWSKI Sp. z o.o. S.K.A. is presented in Tab. 1.

Series	Door leaf / Door rolling curtain	Door actuation method	Number of models	
UniPro series		The 40 [mm] thick panels are filled with PU foam	Compete with torsion or tension springs to counterweigh the door leaf weight. Manually or automatically operated door.	10
UniTherm series		The 60 [mm] thick panels are filled with PU foam	Compete with torsion springs to counterweigh the door leaf weight. Manually or automatically operated door.	3
Prime		The 60 [mm] thick panels are filled with PU foam	Compete with torsion springs to counterweigh the door leaf weight. Automatically operated door.	1
RenoSystem		The 40 [mm] thick panels are filled with PU foam	Compete with torsion or tension springs to counterweigh the door leaf weight. Manually or automatically operated door.	2
RenoBet		The 40 [mm] thick panels are filled with PU foam	Compete with tension springs to counterweigh the door leaf weight. Manually or automatically operated door.	1





BR-77		The door rolling curtain is made of the 19 [mm] thick and 77 [mm] high aluminium profiles with PU	Complete with an electric drive unit (a compact actuator) integrated with the door. Automatically operated door	2
BR-100		The door rolling curtain is made of the 25 [mm] thick and 100 [mm] high aluminium profiles with PU	Complete with an electric drive unit (a compact actuator) integrated with the door. Automatically operated door	1

Table 1. The specification of sectional garage doors systems produced by WIŚNIEWSKI Sp. z o.o. S.K.A.

THE SPECIFICATION OF SECTIONAL INDUSTRIAL DOORS

Sectional industrial door is designed to be used as a vertical partition in industrial, commercial and public utility buildings and garages. Intended use consists in creating safe access for people, goods and vehicles together with the persons accompanying or driving them. Sectional door operated by an electric drive.

The specification of sectional industrial doors offered by WIŚNIEWSKI Sp. z o.o. S.K.A. is presented in Tab.2.

Series	Door leaf / Door rolling curtain	Door actuation method	Number of models	
MakroPro 2.0 series		The 40 [mm] thick panels are filled with PU foam	Complete with torsion springs to counterweigh the door leaf weight. Manually or automatically operated door	15
MakroPro 100 2.0 series		The 40 [mm] thick panels are filled with PU foam	Complete with an electric drive unit (a compact actuator) integrated with the door. Automatically operated door	5






MakroTherm 2.0 series		The 60 [mm] thick panels are filled with PU foam	Complete with torsion springs to counterweigh the door leaf weight. Manually or automatically operated door	3
BR-100		The door rolling curtain is made of the AW 100 [mm] aluminium profiles with CFC-free PU	Complete with an electric drive unit (a compact actuator) integrated with the door. Automatically operated door	1
MakroPro ALU 2.0 series		Panels with frame thickness of 40 [mm] without a thermal break, infilled with a single or double acrylic glass.	Complete with torsion springs to counterweigh the door leaf weight. Manually or automatically operated door	15
MakroPro ALU 2.0 ISO		Panels with frame thickness of 40 [mm] with a thermal break, infilled with a single or double acrylic glass.	Complete with torsion springs to counterweigh the door leaf weight. Manually or automatically operated door	11
MakroPro ALU 100 2.0		Panels with frame thickness of 40 [mm] without a thermal break, infilled with a single or double acrylic glass.	Complete with an electric drive unit (a compact actuator) integrated with the door. Automatically operated door	5

Table 2. The specification of sectional industrial doors systems produced by WIŚNIEWSKI Sp. z o.o. S.K.A.

LIFE CYCLE ASSESSMENT (LCA) – GENERALLY APPLIED RULES

Declared unit

The declaration refers to declared unit (DU) – 1 kg of the sectional garage and industrial doors

Allocation

The allocation rules used for this EPD are based on general ITB PCR A, v. 1.6. Production of the sectional garage and industrial doors is a line process conducted in the manufacturing plant located in Wielogłowy (Poland). All impacts from raw materials extraction and processing are allocated in module A1 of the LCA. Impacts from the sectional garage and industrial doors line production of WIŚNIEWSKI Sp. z o.o. S.K.A. were inventoried based on the products mass basis. 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-A3, 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, v. 1.6. 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 material supply and transport

Steel semi-finished products, aluminium sections, PUR foam (panels), electronic components, packaging materials and ancillary materials come from both local and foreign suppliers. The means of transport include lorries with loading capacity < 10 t, 10 – 16, > 16 t and ships (for some electronic components). Impacts associated with the transport were calculated for the total transport in 2022 and recalculated for the production of 1 kg of a product by WIŚNIEWSKI Sp. z o.o. S.K.A. European standards for average combustion were used for calculations.

Module A3: Manufacturing

The production process of the sectional garage and industrial doors by WIŚNIEWSKI Sp. z o.o. S.K.A. is presented in Figure 2. Steel and PUR foam semi-finished products and electronic components are delivered to factory located in Wielogłowy, where are manufacturing in a few step process including panels and frame-guide production and installation for sectional doors (scheme below). Then the

sectional garage and industrial doors are sorted, packaged and stored prior to the shipment of the final product. The facility is ISO 14001, 9001, 50001 certified.

Diagram of the panels production line for sectional doors :

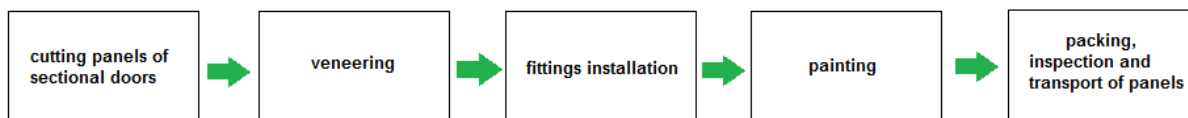


Diagram of the guides and accessories production line for sectional doors :

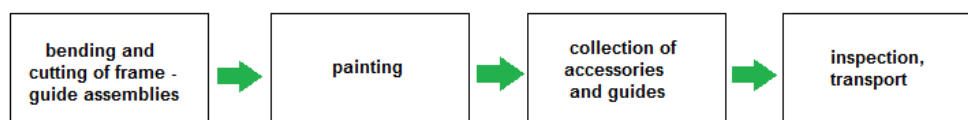


Fig. 2 A scheme of the sectional garage and industrial doors production process by WIŚNIEWSKI Sp. z o.o. S.K.A.

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

There are no specific deconstruction methods of the steel residential and industrial fencing systems applied in Poland. In the adapted scenario, deconstruction of the residential and industrial fencing systems is performed with the use of electrical tools (module C1). It is assumed that at the EoL cycle 100% of the steel residential and industrial fencing systems are recovered. The resulting waste is transported to a waste processing plant distant 100 km, on 16–32 t lorry EURO 5 (module C2) where is sorted, crushed and forwarded to recycling (98%) while the residues undergo landfilling (2%) in the form of inert mixed construction and demolition wastes (module C4). 50 % of waste PUR cores are processing by energy recovery (incineration) and 50 % cores are landfilling. Module D presents credits resulting from the recycling of the primary steel scrap.

Material	Material recovery	Landfilling
steel	98 %	2%
PUR foam	50 %	50 %

Table 3. End-of-life (EoL) scenario for the sectional garage and industrial doors offered by WIŚNIEWSKI Sp. z o.o. S.K.A.

Data quality

The data selected for LCA originate from ITB-LCI questionnaires completed by WIŚNIEWSKI Sp. z o.o. S.K.A. using the inventory data, ITB and Ecoinvent v. 3.10 databases and KOBIZE. KOBIZE data is supplemented with Ecoinvent v. 3.10 data on the national electricity mix impact where no specific indicator data is provided. Polish electricity mix used (production) is 0.685 kg CO₂/kWh (KOBIZE 2023). No specific data collected is older than five years and no generic datasets used are older than ten years. The representativeness, completeness, reliability, and consistency are judged as good.

Data collection period

Primary data provided by WIŚNIEWSKI Sp. z o.o. S.K.A. covers a period of 01.01.2022–31.12.2022 (1 year). The life cycle assessments were prepared for Poland and Europe as reference area.

Assumptions and estimates

The impacts of the representative were aggregated using average for various type of sectional garage and industrial doors. Impacts were inventoried and calculated for all sectional garage and industrial doors manufactured by WIŚNIEWSKI Sp. z o.o. S.K.A. Impacts were inventoried and calculated for all product group and they were presented in Tables 5-8.

Calculation rules

LCA was performed using ITB-LCA tool developed in accordance with EN 15804+A2.

Databases

The data for the processes mainly comes from Ecoinvent v. 3.10, KOBiZE (data for energy) and ITB-Database. Specific data quality analysis was a part of external audit.

LIFE CYCLE ASSESSMENT (LCA) – Results

Declared unit

The declaration refers to declared unit (DU) – 1 kg of the sectional garage and industrial doors, manufactured by WIŚNIEWSKI Sp. z o.o. S.K.A.

Table 4. System boundaries for the environmental characteristic of the sectional garage and industrial doors, manufactured by WIŚNIEWSKI Sp. z o.o. S.K.A.

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	MND	MND	MND	MND	MND	MND	MND	MND	MND	MD	MD	MD	MD	MD



Table 5. LCA results of the sectional garage and industrial doors manufactured by WIŚNIEWSKI Sp. z o.o. S.K.A.— environmental impacts (DU: 1 kg)

Indicator	Unit	A1	A2	A3	A1-A3	C1	C2	C3	C4	D
Global Warming Potential	eq. kg CO ₂	2.05E+00	5.11E-02	3.60E-01	2.46E+00	1.14E-02	1.67E-02	1.93E-01	7.11E-02	-7.49E-01
Greenhouse gas potential – fossil	eq. kg CO ₂	2.05E+00	5.09E-02	3.30E-01	2.43E+00	1.13E-02	1.66E-02	1.69E-01	7.11E-02	-7.41E-01
Greenhouse gas potential – biogenic	eq. kg CO ₂	-2.81E-02	1.04E-04	2.11E-03	-2.59E-02	7.26E-05	5.68E-05	2.42E-02	3.06E-06	-6.76E-03
Global warming potential – land use and land use change	eq. kg CO ₂	2.81E-02	2.64E-05	1.13E-04	2.82E-02	3.99E-06	6.52E-06	2.45E-05	6.03E-07	-7.03E-04
Stratospheric ozone depletion potential	eq. kg CFC 11	4.78E-07	4.07E-09	1.52E-08	4.97E-07	2.19E-10	3.85E-09	6.11E-09	7.26E-11	-6.61E-09
Soil and water acidification potential	eq. mol H+	9.91E-03	1.39E-04	3.43E-03	1.35E-02	1.21E-04	6.75E-05	2.53E-04	1.40E-05	-2.99E-03
Eutrophication potential – freshwater	eq. kg P	1.24E-03	3.96E-06	5.73E-04	1.82E-03	2.07E-05	1.12E-06	8.59E-06	1.44E-07	-3.68E-04
Eutrophication potential – seawater	eq. kg N	2.08E-03	3.67E-05	4.89E-04	2.61E-03	1.72E-05	2.04E-05	9.56E-05	1.46E-05	-6.51E-04
Eutrophication potential – terrestrial	eq. mol N	2.04E-02	3.85E-04	4.09E-03	2.49E-02	1.48E-04	2.22E-04	9.02E-04	6.78E-05	-6.79E-03
Potential for photochemical ozone synthesis	eq. kg NMVOC	7.02E-03	1.79E-04	1.71E-03	8.91E-03	4.14E-05	6.80E-05	2.58E-04	2.13E-05	-2.24E-03
Potential for depletion of abiotic resources – non-fossil resources	eq. kg Sb	4.38E-05	2.10E-07	4.57E-07	4.45E-05	1.65E-08	5.89E-08	6.95E-07	3.61E-09	-3.72E-06
Abiotic depletion potential – fossil fuels	MJ	2.54E+01	7.33E-01	7.01E+00	3.31E+01	1.86E-01	2.47E-01	4.90E-01	1.89E-02	-9.33E+00
Water deprivation potential	eq. m ³	1.03E+00	3.87E-03	1.09E-01	1.15E+00	3.79E-03	1.14E-03	5.33E-03	1.99E-03	-3.24E-01

Table 6. LCA results of the sectional garage and industrial doors manufactured by WIŚNIEWSKI Sp. z o.o. S.K.A. – additional impact indicators (DU: 1 kg)

Indicator	Unit	A1	A2	A3	A1-A3	C1	C2	C3	C4	D
Particulate matter	Disease incidence	INA	INA	INA	INA	INA	INA	INA	INA	INA
Potential human exposure efficiency relative to U235	eg. kBq U235	INA	INA	INA	INA	INA	INA	INA	INA	INA
Potential comparative toxic unit for ecosystems	CTUe	INA	INA	INA	INA	INA	INA	INA	INA	INA
Potential comparative toxic unit for humans (cancer effects)	CTUh	INA	INA	INA	INA	INA	INA	INA	INA	INA
Potential comparative toxic unit for humans (non-cancer effects)	CTUh	INA	INA	INA	INA	INA	INA	INA	INA	INA
Potential soil quality index	dimensionless	INA	INA	INA	INA	INA	INA	INA	INA	INA

Table 7. LCA results of the sectional garage and industrial doors manufactured by WIŚNIEWSKI Sp. z o.o. S.K.A. – resource use (DU: 1 kg)

Indicator	Unit	A1	A2	A3	A1-A3	C1	C2	C3	C4	D
Consumption of renewable primary energy – excluding renewable primary energy sources used as raw materials	MJ	3.74E+00	1.25E-02	3.56E-01	4.11E+00	1.35E-02	3.54E-03	2.22E-03	3.24E-04	-1.36E+00
Consumption of renewable primary energy resources used as raw materials	MJ	8.92E-01	0.00E+00	0.00E+00	8.92E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total consumption of renewable primary energy resources	MJ	4.63E+00	1.25E-02	3.56E-01	5.00E+00	1.35E-02	3.54E-03	2.37E-02	3.24E-04	-1.36E+00
Consumption of non-renewable primary energy - excluding renewable primary energy sources used as raw materials	MJ	2.30E+01	7.33E-01	5.68E+00	2.94E+01	1.97E-01	2.47E-01	-1.21E+00	-1.71E+00	-9.33E+00
Consumption of non-renewable primary energy resources used as raw materials	MJ	2.42E+00	0.00E+00	1.62E+00	4.04E+00	0.00E+00	0.00E+00	1.57E+00	1.73E+00	0.00E+00
Total consumption of non-renewable primary energy resources	MJ	2.54E+01	7.33E-01	7.30E+00	3.34E+01	1.97E-01	2.47E-01	5.17E-01	1.89E-02	-9.33E+00
Consumption of secondary materials	kg	5.48E-01	3.45E-04	6.74E-04	5.49E-01	1.50E-05	8.27E-05	4.27E-04	1.47E-05	-9.75E-01
Consumption of renewable secondary fuels	MJ	6.08E-03	4.30E-06	2.48E-06	6.08E-03	8.23E-08	9.11E-07	2.41E-05	1.36E-07	-1.23E-04
Consumption of non-renewable secondary fuels	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	0.00E+00
Net consumption of freshwater resources	m ³	2.17E-02	9.71E-05	1.18E-03	2.29E-02	6.06E-05	3.10E-05	1.17E-04	1.24E-05	-9.60E-03

Table 8. LCA results of the sectional garage and industrial doors manufactured by WIŚNIEWSKI Sp. z o.o. S.K.A. – waste categories (DU: 1 kg)

Indicator	Unit	A1	A2	A3	A1-A3	C1	C2	C3	C4	D
Hazardous waste neutralized	kg	6.94E-01	6.85E-04	3.68E-03	6.99E-01	3.86E-08	2.77E-04	2.61E-03	1.51E-04	-4.65E-01
Non-hazardous waste neutralised	kg	5.12E+00	1.68E-02	9.65E-02	5.24E+00	1.10E-03	4.92E-03	7.14E-02	7.29E-04	-1.79E+00
Radioactive waste	kg	4.75E-05	1.64E-06	6.27E-06	5.54E-05	1.60E-07	1.70E-06	2.82E-06	2.05E-08	-3.15E-05
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	0.00E+00
Materials for recycling	kg	1.69E-02	4.77E-06	4.76E-05	1.70E-02	1.13E-06	7.64E-07	9.60E-01	1.29E-07	-2.75E-04
Materials for energy recovery	kg	2.60E-05	3.87E-08	7.84E-08	2.62E-05	1.58E-09	6.18E-09	3.36E-08	1.39E-09	-1.98E-06
Energy exported	MJ	7.69E-02	4.93E-04	1.44E-02	9.18E-02	5.41E-04	2.74E-04	7.78E-03	6.28E-06	-2.42E-02

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.)	
<input checked="" type="checkbox"/> External	<input type="checkbox"/> Internal
External verification of EPD: Halina Prejzner, PhD Eng	
LCA, LCI audit and input data verification: Mateusz Kozicki, PhD	
LCA verification: Michał Piasecki, PhD, DSc, Eng	

Note 1: The declaration owner has the sole ownership, liability and responsibility for the information provided and contained in EPD. Declarations within the same product category but from different programmes may not be comparable. 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. Depending on the application, a corresponding conversion factor such as the specific weight per surface area must be taken into consideration.

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 (17065/17025 certified). 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, v. 1.6 General Product Category Rules for Construction Products
- EN 13241:2003+A2:2016 Industrial, commercial, garage doors and gates - Product standard, performance characteristics
- 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
- EN 15942:2012 Sustainability of construction works – Environmental product declarations – Communication format business-to-business
- KOBIZE Emissions (CO₂, SO₂, NO_x, CO and total dust) from electricity, December 2021





Instytut Techniki Budowlanej

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Thermal Physics, Acoustics and Environment Department

02-656 Warsaw, Ksawerów 21

CERTIFICATE № 608/2024

of TYPE III ENVIRONMENTAL DECLARATION

Products:

Sectional garage and industrial doors

Manufacturer:

WIŚNIEWSKI Sp. z o.o. S.K.A.

Wielogłowy 153, 33-311, 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.

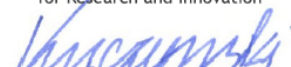
This certificate, issued on 15th March 2024 is valid for 5 years
or until amendment of mentioned Environmental Declaration

Head of the Thermal Physic, Acoustics
and Environment Department


Agnieszka Winkler-Skalna, PhD



Deputy Director
for Research and Innovation


Krzysztof Kuczyński, PhD

Warsaw, March 2024