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## INTERIOR DOORS



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### Owner of the EPD:

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### Basic information

This declaration is the type III Environmental Product Declaration (EPD) based on EN 15804 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. Their aspects were verified by the independent body according to ISO 14025. Basically, a comparison or evaluation of EPD data is possible only if all the compared data were created according to EN 15804.

**Life cycle analysis (LCA):** A1-A3, C3, C4 and D modules in accordance with EN 15804 (Cradle to Gate with options)

**The year of preparing the EPD:** 2020

**Product standard:** PN-EN 14351

**Service Life:** 20 years

**PCR:** ITB-PCR A (PCR based on EN 15804)

**Declared unit:** 1 interior door with frame

**Reasons for performing LCA:** B2B

**Representativeness:** Polish product

## MANUFACTURER



Fig. 1. A view of the Porta KMI Poland Sp. z o.o. Sp. k. production hall in Bolszewo

**Porta KMI Poland Sp. z o.o. Sp. k.** is a Polish door manufacturer. The company was established in 1992 and currently employs approx. 1800 people. Porta KMI Poland Sp. z o.o. Sp. k. operates in production plants located in Bolszewo, Elk, Suwałki and Arad (Romania). It produces over 85,000 internal, entrance, external and technical doors by month. As part of the new business strategy adopted, the company operates in accordance with the idea of open business, cooperation and development.

Porta facilities include:

- factory in Bolszewo (PKP) – the largest plant manufacturing interior, technical and exterior door leaves,
- two factories in Elk City – production of wooden (PKS) and metal (PKM) door leaves and frames,
- factory in Suwałki (PKD) – production of wooden doors and frames,
- factory in Romania – production of carpentry and joinery products.

## PRODUCT DESCRIPTION

The interior doors manufactured by Porta KMI Poland Sp. z o.o. Sp. k. are dedicated for communication in domestic as well as commercial premises. Among company's products, wooden and steel doors are distinguished. Depending on the customer's needs, doors possess various functionalities and can be produced from a wide range of materials. Most of wood-based materials used possess FSC certificate.

Table 1. Characteristic of the interior doors manufactured by Porta KMI Poland Sp. z o.o. Sp. k.

Type	Product designation	Size [mm] w: width, h: height t: thickness	Construction	Finish	Technical properties	
Interior panel, full doors	DWL-P	w: 60-110 h: max. 2200 t: 40	wooden doors with cardboard inside or chipboard	acrylic paint, natural veneer, CPL and HPL veneer	AT-15-6515/2016	PN-EN 14351-2
Interior panel, glazed doors	DWL-P	w: 60-110 h: max. 2200 t: 40	wooden doors with glazing and cardboard or chipboard core	acrylic paint, natural veneer, CPL and HPL veneer		
Interior stile, full doors	DWL-R	w: 60-110 h: max. 2200 t: 40	timber, stile doors	acrylic paint, natural veneer, CPL and HPL veneer		

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Interior stile, glazed doors	DWL-R	w: 60-110 h: max. 2200 t: 40	timber, stile doors with glazing	acrylic paint, natural veneer, CPL and HPL veneer	
Interior steel, full doors	DZ-S-S, DZ-S-S-RC3, DWL-S, DS/P-PP30, DS/P-PP60, DS/P-TDU	w: 60-100 h: max. 2200 t: 40-67	steel doors with core inside (mineral wool or styrofoam)	polyester paint, inox and galvanized steel sheet	AT-15-8081/2016 AT-15-7236/2016 ITB KOT-2017/0008
Interior steel, glazed doors	DS/O-PP30, DS/O-PP60 /DWL-S	w: 60-100 h: max. 2200 t: 40-67	steel doors with glazing and with core (mineral wool or styrofoam)	polyester paint, inox and galvanized steel sheet	
Interior technical wooden doors	DT-A27, DT-A32, DT-AW, DT-PP-DY, DT-PP-2S, HALSPAN EI 30, HALSPAN EI60, DT-W, DT-O, DT-A37, DT-OP-DY, DT-OP-2S,	w: 60-100 h: max. 2200 t: 40-69	wooden doors with core made of wood-based panels with or without glazing	acrylic paint, natural veneer, CPL and HPL veneer	ITB KOT-2017/0096 ITB KOT-2018/0407 ITB KOT-2017/0007
Interior sliding doors	-	w: 60-100 h: max. 2200 t: 40	full or glazed doors with cardboard or chipboard inside	acrylic paint, natural veneer, CPL and HPL veneer	ITB KOT-2017/0184
Interior entrance doors	DW-A32, DT-K32, DT-PW/II-1, DT-PW/II-2, DW-A-32-K2, DT-A37	w: 80-100 h: max. 2200 t: 41-54	full wooden doors with core made of wood-based panels	-	ITB KOT-2017/0242 ITB KOT-2017/0008 ITB KOT-2017/0096
Folding doors	ALFA, BETA	w: 60-100 h: max. 2200 t: 40	wooden folding doors with cardboard or chipboard core inside	acrylic paint, natural veneer, CPL and HPL veneer	ITB KOT-2017/0184
Sliding Systems	ALU, PORTA, KOMPAKT	-	system with trolleys, masking boards and fender beam	natural veneer, CPL and HPL veneer	

### APPLICATION

Porta brand products can be used in residential buildings, office buildings, hospitals or public buildings as internal partitions separating building space. The interior doors offered are differentiated in terms of their functional properties in order to make them suitable for a wide range of applications.

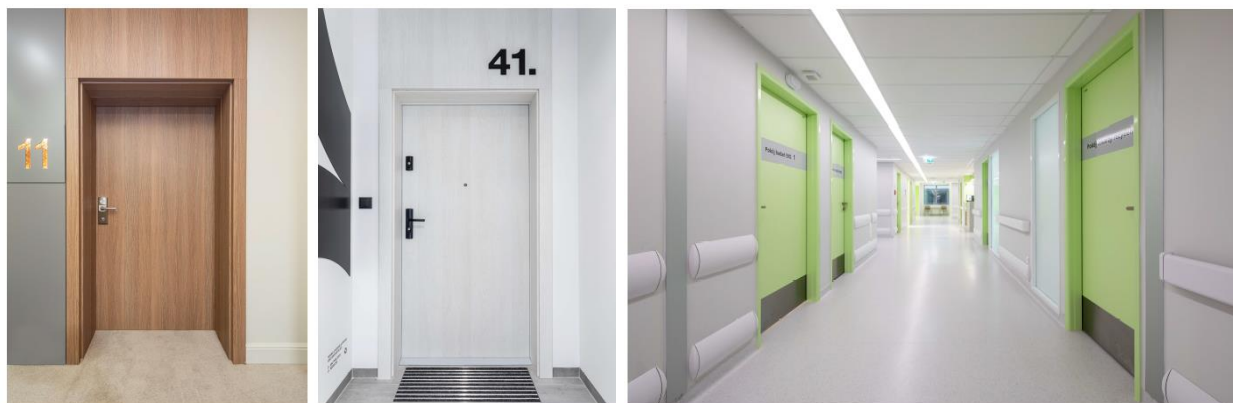


Fig. 2. Examples of interior doors manufactured by Porta KMI Poland Sp. z o. o. Sp. k.

### LIFE CYCLE ASSESSMENT (LCA) – general rules applied

#### Allocation

The allocation rules used for this EPD are based on general ITB PCR A. Production of the interior doors (including door frames) is a line process in three factories of Porta KMI Poland Sp. z o.o. Sp. k. in Bolszewo, Elk and Suwałki (Poland). Allocation was done on product mass basis. All impacts from raw materials extraction are allocated in A1 module of the LCA. 100% of impacts from line production of Porta Sp. z o.o. Sp. k. were inventoried and 99.76% were allocated to the interior doors production (including door frames). Utilization of packaging material was taken into consideration. Module A2 includes transport of raw materials such as steel, aluminium, wood-based products, glass, polymeric products, paints and additives from their suppliers to Porta KMI Poland Sp. z o.o. Sp. k. production plants in Bolszewo, Elk and Suwałki (Poland). Municipal wastes of the factories were allocated to module A3. Energy supply was inventoried for all factories and 99.76 % was allocated to the interior doors production (including door frames). Emissions in the factories are measured and were allocated to module A3.

#### System limits

The life cycle analysis of the declared products covers “Product Stage”, A1-A3, C3, C4 and D modules (Cradle to Gate with options) in accordance with EN 15804:2012+A2:2019 and ITB PCR A. The details of systems limits are provided in product technical report. All materials and energy consumption inventoried in factories and were included in calculation. In the assessment, all significant parameters from gathered production data are considered, i.e. all material used per formulation, utilized thermal energy, internal fuel and electric power consumption, direct production waste, and all available emission measurements. It can be assumed that the total sum of omitted processes does not exceed 5% of all impact categories. In accordance with EN 15804:2012+A2:2019, machines and facilities (capital goods) required for and during production are excluded, as is transportation of employees.

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

Raw materials such as steel, aluminium, wood-based products, glass, polymeric products (PE, PET, PP, PVC, ABS, EPDM, PS), paints, lacquers, additives and packaging materials come from Polish and foreign suppliers. Data on transport of the different products to the manufacturing plants were collected and modelled for the factories by assessor. Means of transport include trucks. For calculation purposes Polish and European fuel averages are applied.

### A3: Production

Production of the interior wooden doors begins with the selection and quality control of raw materials. Subsequently, individual door elements undergo formatting, cutting, gluing and applying finishes like veneers or varnishing. In the next step a product goes to the production line where is drilled and milled. Then the door is supplemented with appropriate elements such as locks or hinges, followed by subjection to gentle surface cleaning and packaging. The last stage is packing and delivery to the warehouse. The production of interior steel doors is executed analogously, except the finishing stage in which the steel elements are welded in the continuous production.

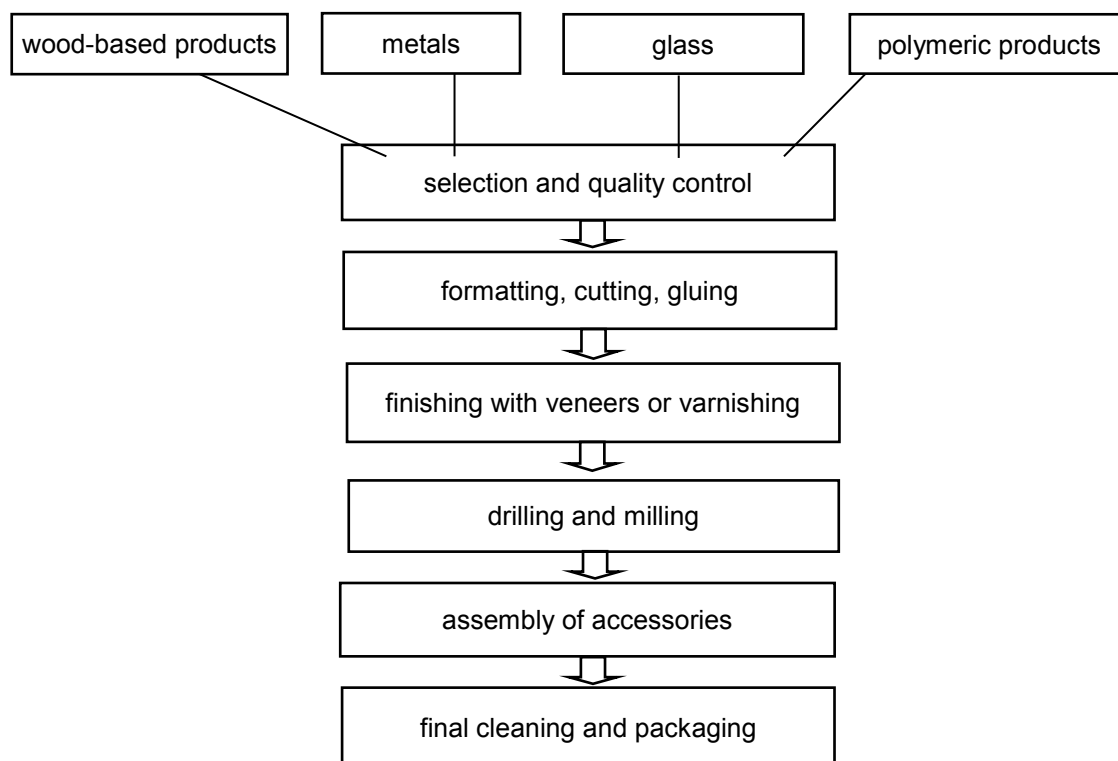


Fig. 3. A scheme of manufacturing of the interior doors by Porta KMI Poland Sp. z o.o. Sp.k.

### End of life scenarios

It is assumed that at the end of life the interior doors are dismantled manually. Selectively recovered materials undergo recycling, energy recovery or landfilling according to Polish treatment practice of industrial waste while residual materials are forwarded to landfill in the form of mixed construction and demolition wastes (Table 2). The reuse, energy recovery and recycling stage is considered beyond the system boundaries (D).

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Table 2. End of life scenario for the interior doors manufactured by Porta KMI Poland Sp. z o.o. Sp. k.

Material	Material recovery	Energy recovery	Recycling	Landfilling
steel	95%	0%	100%	0%
aluminium	95%	0%	75%	25%
wood-based products	95%	50%	50%	0%
polymers	80%	30%	30%	40%
glass	90%	0%	100%	0%

### Data collection period

The data for manufacture of the declared products refer to period between 01.01.2018 – 31.12.2018 (1 year). The life cycle assessments were prepared for Poland as reference area.

### Data quality

The values determined to calculate the LCA originate from verified Porta KMI Poland Sp. z o.o. Sp. k. inventory data

### Assumptions and estimates

The impacts of the representative the interior doors (including door frames) were aggregated using weighted average. Impacts were inventoried and calculated for all products of the interior doors (including door frames).

### Calculation rules

LCA was done in accordance with ITB PCR A document.

### Databases

The data for the processes come from the following databases: Ecoinvent v.3.6, specific EPDs, ELCD, ÖKOBAUDAT, Ullmann's, ITB-Data. Specific data quality analysis was a part of external ISO 14001 audit.

## LIFE CYCLE ASSESSMENT (LCA) – Results

### Declared unit

The declaration refers to declared unit (DU) – 1 interior door with frame manufactured by Porta KMI Poland Sp. z o.o. Sp.k.

Table 3. System boundaries for the environmental characteristic of the interior doors manufactured by Porta KMI Poland Sp. z o.o. Sp. k.

Environmental assessment information (MNA – Module not assessed, MD – Module 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	MNA	MNA	MNA	MNA	MNA	MNA	MNA	MNA	MNA	MND	MND	MD	MD	MD

## Interior full DWL-P doors with frame

Environmental impacts: (DU) 1 door (79 kg) with frame								
Indicator	Unit	A1	A2	A3	A1-A3	C3	C4	D
Global warming potential	kg CO <sub>2</sub> eq.	-8.92E+01	1.97E+00	1.63E+01	-7.10E+01	2.88E+00	1.50E+01	-5.05E+01
Depletion potential of the stratospheric ozone layer	kg CFC 11 eq.	8.06E-07	0.00E+00	0.00E+00	8.06E-07	2.17E-07	3.06E-08	-1.80E-08
Acidification potential of soil and water	kg SO <sub>2</sub> eq.	2.87E-01	1.44E-02	4.55E-03	3.05E-01	1.25E-02	3.20E-02	-5.55E-02
Formation potential of tropospheric ozone	kg Ethene eq.	1.24E-01	1.05E-03	9.28E-03	1.34E-01	1.65E-03	3.03E-03	-1.96E-02
Eutrophication potential	kg (PO <sub>4</sub> ) <sup>3-</sup> eq.	5.95E-02	2.54E-03	7.44E-04	6.28E-02	5.12E-03	2.33E+01	-1.37E-02
Abiotic depletion potential (ADP-elements) for non-fossil resources	kg Sb eq.	4.68E-04	0.00E+00	6.04E-05	5.28E-04	3.19E-05	7.73E-06	-1.04E-04
Abiotic depletion potential (ADP-fossil fuels) for fossil resources	MJ	8.89E+02	1.55E+01	8.97E+01	9.94E+02	4.41E+01	1.43E+02	-8.63E+02
Environmental aspects on resource use: (DU) 1 door (79 kg) with frame								
Indicator	Unit	A1	A2	A3	A1-A3	C3	C4	D
Use of renewable primary energy excluding renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA
Use of renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ	2.04E+03	1.08E+00	2.20E-02	2.04E+03	2.66E+02	9.35E+00	-3.91E+02
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA
Use of non-renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ	9.16E+02	1.62E+01	9.42E+01	1.03E+03	3.65E+01	1.18E+02	-8.60E+02
Use of secondary material	kg	1.96E+00	0.00E+00	0.00E+00	1.96E+00	0.00E+00	0.00E+00	-7.60E+00
Use of renewable secondary fuels	MJ	1.65E-02	0.00E+00	0.00E+00	1.65E-02	0.00E+00	0.00E+00	4.01E+02
Use of non-renewable secondary fuels	MJ	4.21E-03	8.12E-01	0.00E+00	8.17E-01	0.00E+00	0.00E+00	4.52E+01
Net use of fresh water	m <sup>3</sup>	INA	INA	INA	INA	INA	INA	INA
Other environmental information describing waste categories: (DU) 1 door (79 kg) with frame								
Indicator	Unit	A1	A2	A3	A1-A3	C3	C4	D
Hazardous waste disposed	kg	1.74E-02	2.16E-04	1.67E-03	1.93E-02	7.10E-05	8.37E-06	-3.17E-04
Non-hazardous waste disposed	kg	5.39E+00	2.01E-01	1.68E+00	7.27E+00	6.74E-01	4.36E+01	2.20E-02
Radioactive waste disposed	kg	6.70E-03	0.00E+00	0.00E+00	6.70E-03	1.53E-04	6.41E-04	-6.46E-04
Components for re-use	kg	1.91E-02	0.00E+00	1.47E+01	1.47E+01	1.08E-02	0.00E+00	0.00E+00
Materials for recycling	kg	2.32E-02	0.00E+00	5.57E+00	5.59E+00	1.06E+00	0.00E+00	0.00E+00
Materials for energy recover	kg	2.67E-02	0.00E+00	0.00E+00	2.67E-02	3.42E+00	0.00E+00	0.00E+00
Exported energy	MJ per energy carrier	1.27E-01	0.00E+00	0.00E+00	1.27E-01	3.04E+02	1.76E-01	0.00E+00

# Interior glazed DWL-P doors with frame

Environmental impacts: (DU) 1 door (80 kg) with frame								
Indicator	Unit	A1	A2	A3	A1-A3	C3	C4	D
Global warming potential	kg CO <sub>2</sub> eq.	-7.64E+01	1.37E+00	1.64E+01	-5.87E+01	2.58E+00	1.25E+01	-4.66E+01
Depletion potential of the stratospheric ozone layer	kg CFC 11 eq.	2.42E-06	0.00E+00	0.00E+00	2.42E-06	1.79E-07	1.55E-08	-4.38E-08
Acidification potential of soil and water	kg SO <sub>2</sub> eq.	3.14E-01	1.00E-02	4.57E-03	3.29E-01	1.13E-02	2.93E-02	-5.31E-02
Formation potential of tropospheric ozone	kg Ethene eq.	1.19E-01	7.25E-04	9.31E-03	1.29E-01	1.41E-03	2.49E-03	-1.89E-02
Eutrophication potential	kg (PO <sub>4</sub> ) <sup>3-</sup> eq.	6.09E-02	1.77E-03	7.47E-04	6.34E-02	4.59E-03	2.33E+01	-1.36E-02
Abiotic depletion potential (ADP-elements) for non-fossil resources	kg Sb eq.	4.87E-04	0.00E+00	6.06E-05	5.48E-04	2.49E-05	4.66E-06	-1.09E-04
Abiotic depletion potential (ADP-fossil fuels) for fossil resources	MJ	9.19E+02	1.34E+01	9.00E+01	1.02E+03	3.85E+01	1.31E+02	-7.91E+02
Environmental aspects on resource use: (DU) 1 door (80 kg) with frame								
Indicator	Unit	A1	A2	A3	A1-A3	C3	C4	D
Use of renewable primary energy excluding renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA
Use of renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ	1.89E+03	9.40E-01	2.21E-02	1.89E+03	2.48E+02	8.51E+00	-3.78E+02
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA
Use of non-renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ	9.25E+02	1.41E+01	9.45E+01	1.03E+03	3.28E+01	1.06E+02	-7.89E+02
Use of secondary material	kg	1.98E+00	0.00E+00	0.00E+00	1.98E+00	0.00E+00	0.00E+00	-1.13E+00
Use of renewable secondary fuels	MJ	1.68E-02	0.00E+00	0.00E+00	1.68E-02	0.00E+00	1.97E-23	3.46E+02
Use of non-renewable secondary fuels	MJ	2.55E-03	7.05E-01	0.00E+00	7.08E-01	4.08E-30	2.32E-22	4.08E+01
Net use of fresh water	m <sup>3</sup>	INA	INA	INA	INA	INA	INA	INA
Other environmental information describing waste categories: (DU) 1 door (80 kg) with frame								
Indicator	Unit	A1	A2	A3	A1-A3	C3	C4	D
Hazardous waste disposed	kg	1.63E-02	7.68E-05	1.68E-03	1.80E-02	6.00E-05	4.36E-06	-3.32E-04
Non-hazardous waste disposed	kg	4.96E+00	7.13E-02	1.69E+00	6.72E+00	4.71E-01	4.31E+01	-2.37E+00
Radioactive waste disposed	kg	6.00E-03	0.00E+00	0.00E+00	6.00E-03	5.87E-04	5.84E-04	-6.84E-04
Components for re-use	kg	1.95E-02	0.00E+00	1.48E+01	1.48E+01	1.11E-02	0.00E+00	0.00E+00
Materials for recycling	kg	2.32E-02	0.00E+00	5.58E+00	5.61E+00	3.71E+00	0.00E+00	0.00E+00
Materials for energy recover	kg	2.44E-02	0.00E+00	0.00E+00	2.44E-02	2.96E+00	0.00E+00	0.00E+00
Exported energy	MJ per energy carrier	1.27E-01	0.00E+00	0.00E+00	1.27E-01	3.04E+02	1.78E-01	0.00E+00



# Interior full DWL-R doors with frame

Environmental impacts: (DU) 1 door (8 kg) with frame								
Indicator	Unit	A1	A2	A3	A1-A3	C3	C4	D
Global warming potential	kg CO <sub>2</sub> eq.	-1.44E+01	4.78E-01	4.67E+00	-9.24E+00	7.79E-01	4.47E+00	-2.12E+01
Depletion potential of the stratospheric ozone layer	kg CFC 11 eq.	4.58E-07	0.00E+00	0.00E+00	4.58E-07	5.62E-08	6.67E-09	-1.36E-08
Acidification potential of soil and water	kg SO <sub>2</sub> eq.	1.15E-01	3.51E-03	1.31E-03	1.20E-01	3.44E-03	7.82E-03	-1.86E-02
Formation potential of tropospheric ozone	kg Ethene eq.	3.85E-02	2.50E-04	2.66E-03	4.14E-02	4.47E-04	9.00E-04	-7.24E-03
Eutrophication potential	kg (PO <sub>4</sub> ) <sup>3-</sup> eq.	2.04E-02	6.19E-04	2.13E-04	2.13E-02	1.47E-03	8.97E-03	-4.35E-03
Abiotic depletion potential (ADP-elements) for non-fossil resources	kg Sb eq.	4.02E-04	0.00E+00	1.73E-05	4.19E-04	7.94E-06	1.73E-06	-1.04E-04
Abiotic depletion potential (ADP-fossil fuels) for fossil resources	MJ	3.73E+02	5.25E+00	2.57E+01	4.04E+02	1.15E+01	3.45E+01	-3.75E+02
Environmental aspects on resource use: (DU) 1 door (8 kg) with frame								
Indicator	Unit	A1	A2	A3	A1-A3	C3	C4	D
Use of renewable primary energy excluding renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA
Use of renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ	5.65E+02	3.68E-01	6.30E-03	5.65E+02	7.30E+01	2.24E+00	-5.83E+01
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA
Use of non-renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ	4.29E+02	5.51E+00	2.70E+01	4.61E+02	9.42E+00	3.49E+01	-3.72E+02
Use of secondary material	kg	1.53E+00	0.00E+00	0.00E+00	1.53E+00	0.00E+00	0.00E+00	-9.70E+00
Use of renewable secondary fuels	MJ	1.69E-02	0.00E+00	0.00E+00	1.69E-02	0.00E+00	0.00E+00	2.65E+02
Use of non-renewable secondary fuels	MJ	2.94E-03	2.76E-01	0.00E+00	2.79E-01	0.00E+00	0.00E+00	3.17E+01
Net use of fresh water	m <sup>3</sup>	INA	INA	INA	INA	INA	INA	INA
Other environmental information describing waste categories: (DU) 1 door (8 kg) with frame								
Indicator	Unit	A1	A2	A3	A1-A3	C3	C4	D
Hazardous waste disposed	kg	1.32E-02	6.60E-05	4.79E-04	1.37E-02	1.85E-05	1.87E-06	-3.26E-04
Non-hazardous waste disposed	kg	1.92E+00	6.13E-02	4.82E-01	2.46E+00	1.77E-01	2.63E+01	1.59E-01
Radioactive waste disposed	kg	3.81E-03	0.00E+00	0.00E+00	3.81E-03	4.37E-05	2.40E-04	-6.59E-04
Components for re-use	kg	1.89E-02	0.00E+00	4.22E+00	4.24E+00	1.11E-02	0.00E+00	0.00E+00
Materials for recycling	kg	1.99E-02	0.00E+00	1.60E+00	1.62E+00	1.09E+00	0.00E+00	0.00E+00
Materials for energy recover	kg	9.52E-03	0.00E+00	0.00E+00	9.52E-03	1.31E+00	0.00E+00	0.00E+00
Exported energy	MJ per energy carrier	1.26E-01	0.00E+00	0.00E+00	1.26E-01	7.23E-02	1.42E-01	0.00E+00

# Interior glazed DWL-R doors with frame

Environmental impacts: (DU) 1 door (10 kg) with frame								
Indicator	Unit	A1	A2	A3	A1-A3	C3	C4	D
Global warming potential	kg CO <sub>2</sub> eq.	-1.08E+01	5.33E-01	4.99E+00	-5.32E+00	8.10E-01	4.44E+00	-2.16E+01
Depletion potential of the stratospheric ozone layer	kg CFC 11 eq.	1.14E-06	0.00E+00	0.00E+00	1.14E-06	5.58E-08	6.47E-09	-2.07E-08
Acidification potential of soil and water	kg SO <sub>2</sub> eq.	1.35E-01	3.91E-03	1.39E-03	1.40E-01	3.53E-03	7.90E-03	-1.92E-02
Formation potential of tropospheric ozone	kg Ethene eq.	4.07E-02	2.82E-04	2.84E-03	4.38E-02	4.50E-04	8.99E-04	-7.55E-03
Eutrophication potential	kg (PO <sub>4</sub> ) <sup>3-</sup> eq.	2.41E-02	6.89E-04	2.28E-04	2.50E-02	1.48E-03	1.84E-02	-4.68E-03
Abiotic depletion potential (ADP-elements) for non-fossil resources	kg Sb eq.	4.62E-04	0.00E+00	1.85E-05	4.81E-04	7.87E-06	1.67E-06	-1.04E-04
Abiotic depletion potential (ADP-fossil fuels) for fossil resources	MJ	4.36E+02	5.61E+00	2.74E+01	4.69E+02	1.18E+01	3.46E+01	-3.79E+02
Environmental aspects on resource use: (DU) 1 door (10 kg) with frame								
Indicator	Unit	A1	A2	A3	A1-A3	C3	C4	D
Use of renewable primary energy excluding renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA
Use of renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ	5.73E+02	3.93E-01	6.73E-03	5.74E+02	7.36E+01	2.26E+00	-5.88E+01
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA
Use of non-renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ	4.89E+02	5.89E+00	2.88E+01	5.24E+02	9.99E+00	3.50E+01	-3.76E+02
Use of secondary material	kg	1.60E+00	0.00E+00	0.00E+00	1.60E+00	0.00E+00	0.00E+00	-1.01E+01
Use of renewable secondary fuels	MJ	1.69E-02	0.00E+00	0.00E+00	1.69E-02	0.00E+00	4.51E-24	2.67E+02
Use of non-renewable secondary fuels	MJ	3.61E-03	2.95E-01	0.00E+00	2.98E-01	9.33E-31	5.30E-23	3.21E+01
Net use of fresh water	m <sup>3</sup>	INA	INA	INA	INA	INA	INA	INA
Other environmental information describing waste categories: (DU) 1 door (10 kg) with frame								
Indicator	Unit	A1	A2	A3	A1-A3	C3	C4	D
Hazardous waste disposed	kg	1.28E-02	6.47E-05	5.11E-04	1.33E-02	1.84E-05	1.82E-06	-3.27E-04
Non-hazardous waste disposed	kg	2.16E+00	6.01E-02	5.14E-01	2.73E+00	1.74E-01	2.80E+01	-4.78E-01
Radioactive waste disposed	kg	3.95E-03	0.00E+00	0.00E+00	3.95E-03	1.48E-04	2.43E-04	-6.60E-04
Components for re-use	kg	1.88E-02	0.00E+00	4.50E+00	4.52E+00	1.11E-02	0.00E+00	0.00E+00
Materials for recycling	kg	1.92E-02	0.00E+00	1.70E+00	1.72E+00	1.69E+00	0.00E+00	0.00E+00
Materials for energy recover	kg	6.61E-03	0.00E+00	0.00E+00	6.61E-03	9.90E-01	0.00E+00	0.00E+00
Exported energy	MJ per energy carrier	1.26E-01	0.00E+00	0.00E+00	1.26E-01	1.95E-01	1.45E-01	0.00E+00

# Interior steel full doors with frame

Environmental impacts: (DU) 1 door (23 kg) with frame								
Indicator	Unit	A1	A2	A3	A1-A3	C3	C4	D
Global warming potential	kg CO <sub>2</sub> eq.	6.22E+01	7.38E-01	6.04E+00	6.90E+01	1.62E+00	2.95E+00	-3.71E+01
Depletion potential of the stratospheric ozone layer	kg CFC 11 eq.	2.06E-06	0.00E+00	0.00E+00	2.06E-06	2.65E-08	3.48E-08	-3.64E-07
Acidification potential of soil and water	kg SO <sub>2</sub> eq.	2.04E-01	5.39E-03	1.69E-03	2.11E-01	7.76E-03	2.78E-03	-8.14E-02
Formation potential of tropospheric ozone	kg Ethene eq.	3.39E-02	3.91E-04	3.44E-03	3.77E-02	1.03E-03	7.44E-04	-1.03E-02
Eutrophication potential	kg (PO <sub>4</sub> ) <sup>3-</sup> eq.	3.37E-02	9.52E-04	2.76E-04	3.50E-02	5.21E-03	9.21E-04	-1.34E-02
Abiotic depletion potential (ADP-elements) for non-fossil resources	kg Sb eq.	3.67E-03	0.00E+00	2.24E-05	3.70E-03	2.68E-06	6.61E-06	-2.95E-03
Abiotic depletion potential (ADP-fossil fuels) for fossil resources	MJ	7.72E+02	6.74E+00	3.32E+01	8.12E+02	4.19E+00	8.70E+00	-2.95E+02
Environmental aspects on resource use: (DU) 1 door (23 kg) with frame								
Indicator	Unit	A1	A2	A3	A1-A3	C3	C4	D
Use of renewable primary energy excluding renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA
Use of renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ	7.94E+01	4.72E-01	8.14E-03	7.99E+01	5.22E-01	9.02E-01	3.06E+01
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA
Use of non-renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ	8.40E+02	7.08E+00	3.49E+01	8.82E+02	4.64E+00	7.60E+00	-2.06E+02
Use of secondary material	kg	2.72E+01	0.00E+00	0.00E+00	2.72E+01	0.00E+00	0.00E+00	0.00E+00
Use of renewable secondary fuels	MJ	4.78E-01	0.00E+00	0.00E+00	4.78E-01	0.00E+00	0.00E+00	0.00E+00
Use of non-renewable secondary fuels	MJ	3.03E-03	3.54E-01	0.00E+00	3.57E-01	0.00E+00	0.00E+00	0.00E+00
Net use of fresh water	m <sup>3</sup>	INA	INA	INA	INA	INA	INA	INA
Other environmental information describing waste categories: (DU) 1 door (23 kg) with frame								
Indicator	Unit	A1	A2	A3	A1-A3	C3	C4	D
Hazardous waste disposed	kg	1.39E-02	3.45E-05	6.19E-04	1.46E-02	4.58E-06	9.10E-06	-9.39E-03
Non-hazardous waste disposed	kg	5.02E+00	3.20E-02	6.22E-01	5.68E+00	8.62E-01	1.24E+00	-3.29E+00
Radioactive waste disposed	kg	2.31E-02	0.00E+00	0.00E+00	2.31E-02	1.61E-04	1.66E-05	-2.04E-02
Components for re-use	kg	5.35E-01	0.00E+00	5.45E+00	5.98E+00	3.21E-01	0.00E+00	0.00E+00
Materials for recycling	kg	5.14E-01	0.00E+00	2.06E+00	2.57E+00	3.15E+01	0.00E+00	0.00E+00
Materials for energy recover	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy	MJ per energy carrier	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

## Interior steel glazed doors with frame

Environmental impacts: (DU) 1 door (30 kg) with frame								
Indicator	Unit	A1	A2	A3	A1-A3	C3	C4	D
Global warming potential	kg CO <sub>2</sub> eq.	7.02E+01	1.67E+00	7.09E+00	7.89E+01	1.62E+00	2.64E+00	-4.05E+01
Depletion potential of the stratospheric ozone layer	kg CFC 11 eq.	1.79E-06	0.00E+00	0.00E+00	1.79E-06	1.95E-08	3.06E-08	-4.09E-07
Acidification potential of soil and water	kg SO <sub>2</sub> eq.	2.42E-01	1.22E-02	1.98E-03	2.57E-01	7.75E-03	2.72E-03	-8.93E-02
Formation potential of tropospheric ozone	kg Ethene eq.	3.57E-02	8.85E-04	4.03E-03	4.06E-02	1.00E-03	6.75E-04	-1.17E-02
Eutrophication potential	kg (PO <sub>4</sub> ) <sup>3-</sup> eq.	3.29E-02	2.15E-03	3.24E-04	3.53E-02	5.17E-03	8.47E-04	-1.46E-02
Abiotic depletion potential (ADP-elements) for non-fossil resources	kg Sb eq.	3.89E-03	0.00E+00	2.63E-05	3.91E-03	1.21E-06	5.82E-06	-3.23E-03
Abiotic depletion potential (ADP-fossil fuels) for fossil resources	MJ	8.93E+02	1.34E+01	3.90E+01	9.45E+02	3.75E+00	8.25E+00	-3.24E+02
Environmental aspects on resource use: (DU) 1 door (30 kg) with frame								
Indicator	Unit	A1	A2	A3	A1-A3	C3	C4	D
Use of renewable primary energy excluding renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA
Use of renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ	7.36E+01	9.39E-01	9.56E-03	7.46E+01	9.60E-01	8.71E-01	3.36E+01
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA
Use of non-renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ	9.79E+02	1.41E+01	4.09E+01	1.03E+03	4.85E+00	7.30E+00	-2.27E+02
Use of secondary material	kg	3.00E+01	0.00E+00	0.00E+00	3.00E+01	0.00E+00	0.00E+00	0.00E+00
Use of renewable secondary fuels	MJ	5.25E-01	0.00E+00	0.00E+00	5.25E-01	0.00E+00	9.62E-24	0.00E+00
Use of non-renewable secondary fuels	MJ	3.03E-03	7.04E-01	0.00E+00	7.07E-01	1.99E-30	1.13E-22	0.00E+00
Net use of fresh water	m <sup>3</sup>	INA	INA	INA	INA	INA	INA	INA
Other environmental information describing waste categories: (DU) 1 door (30 kg) with frame								
Indicator	Unit	A1	A2	A3	A1-A3	C3	C4	D
Hazardous waste disposed	kg	1.41E-02	3.18E-05	7.26E-04	1.49E-02	2.70E-06	8.00E-06	-1.03E-02
Non-hazardous waste disposed	kg	4.59E+00	2.95E-02	7.30E-01	5.35E+00	8.77E-01	4.06E+00	-4.57E+00
Radioactive waste disposed	kg	2.67E-02	0.00E+00	0.00E+00	2.67E-02	3.94E-04	2.38E-05	-2.24E-02
Components for re-use	kg	5.87E-01	0.00E+00	6.39E+00	6.98E+00	3.52E-01	0.00E+00	0.00E+00
Materials for recycling	kg	5.63E-01	0.00E+00	2.42E+00	2.98E+00	3.58E+01	0.00E+00	0.00E+00
Materials for energy recover	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy	MJ per energy carrier	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

# Interior technical wooden doors with frame

Environmental impacts: (DU) 1 door (41 kg) with frame								
Indicator	Unit	A1	A2	A3	A1-A3	C3	C4	D
Global warming potential	kg CO <sub>2</sub> eq.	-3.69E+01	2.12E+00	1.00E+01	-2.48E+01	1.97E+00	1.11E+01	-4.17E+01
Depletion potential of the stratospheric ozone layer	kg CFC 11 eq.	6.26E-05	0.00E+00	0.00E+00	6.26E-05	1.47E-07	2.99E-08	-1.85E-08
Acidification potential of soil and water	kg SO <sub>2</sub> eq.	2.19E-01	1.56E-02	2.81E-03	2.37E-01	8.40E-03	1.83E-02	-3.89E-02
Formation potential of tropospheric ozone	kg Ethene eq.	7.93E-02	1.11E-03	5.72E-03	8.61E-02	1.14E-03	2.29E-03	-1.47E-02
Eutrophication potential	kg (PO <sub>4</sub> ) <sup>3-</sup> eq.	3.74E-02	2.75E-03	4.59E-04	4.06E-02	3.45E-03	1.73E+00	-9.50E-03
Abiotic depletion potential (ADP-elements) for non-fossil resources	kg Sb eq.	3.63E-04	0.00E+00	3.72E-05	4.00E-04	2.25E-05	6.69E-06	-1.11E-04
Abiotic depletion potential (ADP-fossil fuels) for fossil resources	MJ	7.84E+02	2.36E+01	5.53E+01	8.63E+02	2.93E+01	7.92E+01	-7.28E+02
Environmental aspects on resource use: (DU) 1 door (41 kg) with frame								
Indicator	Unit	A1	A2	A3	A1-A3	C3	C4	D
Use of renewable primary energy excluding renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA
Use of renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ	1.20E+03	1.65E+00	1.36E-02	1.21E+03	1.58E+02	5.30E+00	-1.50E+02
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA
Use of non-renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ	8.91E+02	2.48E+01	5.81E+01	9.74E+02	2.47E+01	7.75E+01	-7.25E+02
Use of secondary material	kg	2.59E+00	0.00E+00	0.00E+00	2.59E+00	0.00E+00	0.00E+00	-2.80E-01
Use of renewable secondary fuels	MJ	1.75E-02	0.00E+00	0.00E+00	1.75E-02	0.00E+00	0.00E+00	4.80E+02
Use of non-renewable secondary fuels	MJ	1.36E-03	1.24E+00	0.00E+00	1.24E+00	0.00E+00	0.00E+00	5.22E+01
Net use of fresh water	m <sup>3</sup>	INA	INA	INA	INA	INA	INA	INA
Other environmental information describing waste categories: (DU) 1 door (41 kg) with frame								
Indicator	Unit	A1	A2	A3	A1-A3	C3	C4	D
Hazardous waste disposed	kg	1.31E-02	7.14E-05	1.03E-03	1.42E-02	4.67E-05	8.11E-06	-3.42E-04
Non-hazardous waste disposed	kg	2.84E+00	6.63E-02	1.04E+00	3.94E+00	5.38E-01	5.31E+01	4.67E-01
Radioactive waste disposed	kg	7.70E-03	0.00E+00	0.00E+00	7.70E-03	1.03E-04	5.05E-04	-6.73E-04
Components for re-use	kg	1.99E-02	0.00E+00	9.07E+00	9.09E+00	1.16E-02	0.00E+00	0.00E+00
Materials for recycling	kg	2.13E-02	0.00E+00	3.43E+00	3.45E+00	2.95E+00	0.00E+00	0.00E+00
Materials for energy recover	kg	1.20E-02	0.00E+00	0.00E+00	1.20E-02	1.70E+00	0.00E+00	0.00E+00
Exported energy	MJ per energy carrier	1.26E-01	0.00E+00	0.00E+00	1.26E-01	2.24E+01	1.82E-01	0.00E+00

# Interior technical wooden doors with glazing and frame

Environmental impacts: (DU) 1 door (61 kg) with frame								
Indicator	Unit	A1	A2	A3	A1-A3	C3	C4	D
Global warming potential	kg CO <sub>2</sub> eq.	-2.99E+01	2.07E+00	1.34E+01	-1.44E+01	1.95E+00	1.02E+01	-3.93E+01
Depletion potential of the stratospheric ozone layer	kg CFC 11 eq.	4.57E-05	0.00E+00	0.00E+00	4.57E-05	1.13E-07	4.94E-09	-7.33E-08
Acidification potential of soil and water	kg SO <sub>2</sub> eq.	3.17E-01	1.51E-02	3.74E-03	3.36E-01	8.19E-03	1.91E-02	-4.15E-02
Formation potential of tropospheric ozone	kg Ethene eq.	8.71E-02	1.10E-03	7.63E-03	9.59E-02	9.61E-04	2.07E-03	-1.64E-02
Eutrophication potential	kg (PO <sub>4</sub> ) <sup>3-</sup> eq.	4.90E-02	2.67E-03	6.12E-04	5.22E-02	3.16E-03	2.01E+00	-1.02E-02
Abiotic depletion potential (ADP-elements) for non-fossil resources	kg Sb eq.	5.48E-04	0.00E+00	4.96E-05	5.97E-04	1.52E-05	2.07E-06	-1.11E-04
Abiotic depletion potential (ADP-fossil fuels) for fossil resources	MJ	9.93E+02	1.59E+01	7.37E+01	1.08E+03	2.75E+01	8.24E+01	-6.91E+02
Environmental aspects on resource use: (DU) 1 door (61 kg) with frame								
Indicator	Unit	A1	A2	A3	A1-A3	C3	C4	D
Use of renewable primary energy excluding renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA
Use of renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ	1.30E+03	1.11E+00	1.81E-02	1.30E+03	1.71E+02	5.44E+00	-1.49E+02
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA
Use of non-renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ	1.08E+03	1.67E+01	7.74E+01	1.17E+03	2.57E+01	8.13E+01	-6.88E+02
Use of secondary material	kg	3.95E+00	0.00E+00	0.00E+00	3.95E+00	0.00E+00	0.00E+00	1.07E+01
Use of renewable secondary fuels	MJ	1.67E-02	0.00E+00	0.00E+00	1.67E-02	0.00E+00	4.86E-23	4.38E+02
Use of non-renewable secondary fuels	MJ	1.36E-03	8.33E-01	0.00E+00	8.34E-01	1.01E-29	5.72E-22	4.27E+01
Net use of fresh water	m <sup>3</sup>	INA	INA	INA	INA	INA	INA	INA
Other environmental information describing waste categories: (DU) 1 door (61 kg) with frame								
Indicator	Unit	A1	A2	A3	A1-A3	C3	C4	D
Hazardous waste disposed	kg	1.25E-02	5.06E-05	1.37E-03	1.39E-02	3.86E-05	1.60E-06	-3.37E-04
Non-hazardous waste disposed	kg	2.87E+00	4.70E-02	1.38E+00	4.29E+00	2.66E-01	7.09E+01	-5.33E+00
Radioactive waste disposed	kg	6.74E-03	0.00E+00	0.00E+00	6.74E-03	1.21E-03	5.82E-04	-6.92E-04
Components for re-use	kg	1.90E-02	0.00E+00	1.21E+01	1.21E+01	1.11E-02	0.00E+00	0.00E+00
Materials for recycling	kg	2.02E-02	0.00E+00	4.57E+00	4.59E+00	1.08E+01	0.00E+00	0.00E+00
Materials for energy recover	kg	1.09E-02	0.00E+00	0.00E+00	1.09E-02	1.59E+00	0.00E+00	0.00E+00
Exported energy	MJ per energy carrier	1.26E-01	0.00E+00	0.00E+00	1.26E-01	2.61E+01	9.67E-02	0.00E+00

# Interior wooden entrance doors with frame

Environmental impacts: (DU) 1 door (49 kg) with frame								
Indicator	Unit	A1	A2	A3	A1-A3	C3	C4	D
Global warming potential	kg CO <sub>2</sub> eq.	-3.24E+01	2.22E+00	1.13E+01	-1.88E+01	1.94E+00	9.11E+00	-4.56E+01
Depletion potential of the stratospheric ozone layer	kg CFC 11 eq.	2.98E-05	0.00E+00	0.00E+00	2.98E-05	1.34E-07	5.73E-09	-2.54E-07
Acidification potential of soil and water	kg SO <sub>2</sub> eq.	2.14E-01	1.62E-02	3.17E-03	2.33E-01	1.13E-02	1.72E-02	-5.05E-02
Formation potential of tropospheric ozone	kg Ethene eq.	1.28E-01	1.18E-03	6.45E-03	1.35E-01	1.11E-03	1.81E-03	-2.20E-02
Eutrophication potential	kg (PO <sub>4</sub> ) <sup>3-</sup> eq.	1.05E-01	2.87E-03	5.18E-04	1.08E-01	4.72E-03	2.42E+00	-4.78E-02
Abiotic depletion potential (ADP-elements) for non-fossil resources	kg Sb eq.	9.26E-04	0.00E+00	4.20E-05	9.68E-04	3.70E-05	2.02E-06	-6.27E-04
Abiotic depletion potential (ADP-fossil fuels) for fossil resources	MJ	7.17E+02	1.70E+01	6.24E+01	7.96E+02	2.79E+01	7.73E+01	-6.98E+02
Environmental aspects on resource use: (DU) 1 door (49 kg) with frame								
Indicator	Unit	A1	A2	A3	A1-A3	C3	C4	D
Use of renewable primary energy excluding renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA
Use of renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ	1.25E+03	1.19E+00	1.53E-02	1.25E+03	1.71E+02	4.93E+00	-1.35E+02
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA
Use of non-renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ	8.01E+02	1.78E+01	6.55E+01	8.84E+02	2.28E+01	7.57E+01	-6.80E+02
Use of secondary material	kg	7.33E+00	0.00E+00	0.00E+00	7.33E+00	0.00E+00	0.00E+00	4.00E+00
Use of renewable secondary fuels	MJ	1.01E-01	0.00E+00	0.00E+00	1.01E-01	0.00E+00	0.00E+00	3.24E+02
Use of non-renewable secondary fuels	MJ	1.36E-03	8.92E-01	0.00E+00	8.93E-01	0.00E+00	0.00E+00	3.42E+01
Net use of fresh water	m <sup>3</sup>	INA	INA	INA	INA	INA	INA	INA
Other environmental information describing waste categories: (DU) 1 door (49 kg) with frame								
Indicator	Unit	A1	A2	A3	A1-A3	C3	C4	D
Hazardous waste disposed	kg	1.75E-02	8.09E-05	1.16E-03	1.88E-02	5.59E-02	1.60E-06	-1.98E-03
Non-hazardous waste disposed	kg	3.46E+00	7.51E-02	1.17E+00	4.70E+00	3.88E-01	5.33E+01	1.78E-02
Radioactive waste disposed	kg	8.47E-03	0.00E+00	0.00E+00	8.47E-03	1.20E-04	5.14E-04	-4.27E-03
Components for re-use	kg	1.14E-01	0.00E+00	1.02E+01	1.03E+01	6.76E-02	0.00E+00	0.00E+00
Materials for recycling	kg	1.14E-01	0.00E+00	3.87E+00	3.98E+00	1.52E+01	0.00E+00	-2.88E-01
Materials for energy recover	kg	2.49E-02	0.00E+00	0.00E+00	2.49E-02	3.03E+00	0.00E+00	0.00E+00
Exported energy	MJ per energy carrier	1.27E-01	0.00E+00	0.00E+00	1.27E-01	3.15E+01	1.09E-01	0.00E+00

# Interior sliding doors with frame

Environmental impacts: (DU) 1 door (37 kg) with frame								
Indicator	Unit	A1	A2	A3	A1-A3	C3	C4	D
Global warming potential	kg CO <sub>2</sub> eq.	-7.11E+00	3.22E-01	2.72E+00	-4.07E+00	5.76E-01	3.08E+00	-1.19E+01
Depletion potential of the stratospheric ozone layer	kg CFC 11 eq.	1.80E-04	0.00E+00	0.00E+00	1.80E-04	3.82E-08	8.75E-09	-1.14E-09
Acidification potential of soil and water	kg SO <sub>2</sub> eq.	6.40E-02	2.35E-03	7.60E-04	6.71E-02	2.53E-03	4.91E-03	-1.06E-02
Formation potential of tropospheric ozone	kg Ethene eq.	1.94E-02	1.71E-04	1.55E-03	2.11E-02	3.38E-04	6.39E-04	-4.36E-03
Eutrophication potential	kg (PO <sub>4</sub> ) <sup>3-</sup> eq.	1.33E-02	4.15E-04	1.24E-04	1.38E-02	1.15E-03	7.97E-03	-2.70E-03
Abiotic depletion potential (ADP-elements) for non-fossil resources	kg Sb eq.	3.20E-03	0.00E+00	1.01E-05	3.21E-03	5.66E-06	1.86E-06	-1.11E-06
Abiotic depletion potential (ADP-fossil fuels) for fossil resources	MJ	2.55E+02	2.56E+00	1.50E+01	2.72E+02	7.58E+00	2.12E+01	-2.13E+02
Environmental aspects on resource use: (DU) 1 door (37 kg) with frame								
Indicator	Unit	A1	A2	A3	A1-A3	C3	C4	D
Use of renewable primary energy excluding renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA
Use of renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ	3.22E+02	1.79E-01	3.67E-03	3.22E+02	4.21E+01	1.42E+00	-3.56E+01
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA
Use of non-renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ	2.80E+02	2.69E+00	1.57E+01	2.99E+02	6.36E+00	2.12E+01	-2.13E+02
Use of secondary material	kg	4.58E-01	0.00E+00	0.00E+00	4.58E-01	0.00E+00	0.00E+00	-3.56E-01
Use of renewable secondary fuels	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.56E+02
Use of non-renewable secondary fuels	MJ	0.00E+00	1.35E-01	0.00E+00	1.35E-01	0.00E+00	0.00E+00	1.66E+01
Net use of fresh water	m <sup>3</sup>	INA	INA	INA	INA	INA	INA	INA
Other environmental information describing waste categories: (DU) 1 door (37 kg) with frame								
Indicator	Unit	A1	A2	A3	A1-A3	C3	C4	D
Hazardous waste disposed	kg	2.00E-03	2.03E-06	2.79E-04	2.28E-03	1.21E-05	2.35E-06	-3.55E-07
Non-hazardous waste disposed	kg	9.59E-01	1.88E-03	2.80E-01	1.24E+00	1.31E-01	1.61E+01	1.46E-01
Radioactive waste disposed	kg	1.70E-03	0.00E+00	0.00E+00	1.70E-03	2.55E-05	1.41E-04	2.27E-05
Components for re-use	kg	3.31E-04	0.00E+00	2.45E+00	2.45E+00	0.00E+00	0.00E+00	0.00E+00
Materials for recycling	kg	1.74E-03	0.00E+00	9.28E-01	9.30E-01	0.00E+00	0.00E+00	0.00E+00
Materials for energy recover	kg	7.85E-03	0.00E+00	0.00E+00	7.85E-03	8.72E-01	0.00E+00	0.00E+00
Exported energy	MJ per energy carrier	4.36E-04	0.00E+00	0.00E+00	4.36E-04	7.58E-02	5.42E-02	0.00E+00



# Interior sliding system

Environmental impacts: (DU) 1 door (8 kg) with frame								
Indicator	Unit	A1	A2	A3	A1-A3	C3	C4	D
Global warming potential	kg CO <sub>2</sub> eq.	-3.56E+00	1.61E-01	1.36E+00	-2.04E+00	2.88E-01	1.54E+00	-5.97E+00
Depletion potential of the stratospheric ozone layer	kg CFC 11 eq.	9.01E-05	0.00E+00	0.00E+00	9.01E-05	1.91E-08	4.37E-09	-5.70E-10
Acidification potential of soil and water	kg SO <sub>2</sub> eq.	3.20E-02	1.18E-03	3.80E-04	3.36E-02	1.26E-03	2.46E-03	-5.29E-03
Formation potential of tropospheric ozone	kg Ethene eq.	9.69E-03	8.57E-05	7.74E-04	1.05E-02	1.69E-04	3.20E-04	-2.18E-03
Eutrophication potential	kg (PO <sub>4</sub> ) <sup>3-</sup> eq.	6.64E-03	2.08E-04	6.21E-05	6.91E-03	5.77E-04	3.98E-03	-1.35E-03
Abiotic depletion potential (ADP-elements) for non-fossil resources	kg Sb eq.	1.60E-03	0.00E+00	5.04E-06	1.60E-03	2.83E-06	9.28E-07	-5.57E-07
Abiotic depletion potential (ADP-fossil fuels) for fossil resources	MJ	1.27E+02	1.28E+00	7.48E+00	1.36E+02	3.79E+00	1.06E+01	-1.07E+02
Environmental aspects on resource use: (DU) 1 door (8 kg) with frame								
Indicator	Unit	A1	A2	A3	A1-A3	C3	C4	D
Use of renewable primary energy excluding renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA
Use of renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ	1.61E+02	8.97E-02	1.83E-03	1.61E+02	2.11E+01	7.08E-01	-1.78E+01
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA
Use of non-renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ	1.40E+02	1.35E+00	7.86E+00	1.49E+02	3.18E+00	1.06E+01	-1.07E+02
Use of secondary material	kg	2.29E-01	0.00E+00	0.00E+00	2.29E-01	0.00E+00	0.00E+00	-1.78E-01
Use of renewable secondary fuels	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.78E+01
Use of non-renewable secondary fuels	MJ	0.00E+00	6.73E-02	0.00E+00	6.73E-02	0.00E+00	0.00E+00	8.28E+00
Net use of fresh water	m <sup>3</sup>	INA	INA	INA	INA	INA	INA	INA
Other environmental information describing waste categories: (DU) 1 door (8 kg) with frame								
Indicator	Unit	A1	A2	A3	A1-A3	C3	C4	D
Hazardous waste disposed	kg	9.99E-04	1.01E-06	1.39E-04	1.14E-03	6.04E-06	1.17E-06	-1.77E-07
Non-hazardous waste disposed	kg	4.80E-01	9.41E-04	1.40E-01	6.21E-01	6.53E-02	8.06E+00	7.29E-02
Radioactive waste disposed	kg	8.48E-04	0.00E+00	0.00E+00	8.48E-04	1.27E-05	7.07E-05	1.14E-05
Components for re-use	kg	1.66E-04	0.00E+00	1.23E+00	1.23E+00	0.00E+00	0.00E+00	0.00E+00
Materials for recycling	kg	8.72E-04	0.00E+00	4.64E-01	4.65E-01	0.00E+00	0.00E+00	0.00E+00
Materials for energy recover	kg	3.92E-03	0.00E+00	0.00E+00	3.92E-03	4.36E-01	0.00E+00	0.00E+00
Exported energy	MJ per energy carrier	2.18E-04	0.00E+00	0.00E+00	2.18E-04	3.79E-02	2.71E-02	0.00E+00

# Interior folding doors with frame

Environmental impacts: (DU) 1 door (75 kg) with frame								
Indicator	Unit	A1	A2	A3	A1-A3	C3	C4	D
Global warming potential	kg CO <sub>2</sub> eq.	-3.00E+01	2.71E+00	1.22E+01	-1.51E+01	2.29E+00	9.21E+00	-5.04E+01
Depletion potential of the stratospheric ozone layer	kg CFC 11 eq.	4.30E-07	0.00E+00	0.00E+00	4.30E-07	1.61E-07	8.01E-09	-2.56E-07
Acidification potential of soil and water	kg SO <sub>2</sub> eq.	3.13E-01	1.98E-02	3.41E-03	3.36E-01	1.39E-02	1.92E-02	-3.68E-02
Formation potential of tropospheric ozone	kg Ethene eq.	1.47E-01	1.44E-03	6.94E-03	1.56E-01	1.32E-03	1.85E-03	-2.65E-02
Eutrophication potential	kg (PO <sub>4</sub> ) <sup>3-</sup> eq.	1.43E-01	3.50E-03	5.57E-04	1.47E-01	5.70E-03	2.37E+00	-6.10E-02
Abiotic depletion potential (ADP-elements) for non-fossil resources	kg Sb eq.	1.54E-04	0.00E+00	4.52E-05	1.99E-04	4.90E-05	2.54E-06	-4.07E-05
Abiotic depletion potential (ADP-fossil fuels) for fossil resources	MJ	1.04E+03	2.09E+01	6.71E+01	1.13E+03	3.35E+01	8.59E+01	-8.45E+02
Environmental aspects on resource use: (DU) 1 door (75 kg) with frame								
Indicator	Unit	A1	A2	A3	A1-A3	C3	C4	D
Use of renewable primary energy excluding renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA
Use of renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ	1.51E+03	1.46E+00	1.65E-02	1.51E+03	1.96E+02	5.50E+00	-1.81E+02
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA
Use of non-renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ	1.19E+03	2.19E+01	7.05E+01	1.28E+03	2.74E+01	8.47E+01	-8.44E+02
Use of secondary material	kg	5.62E-01	0.00E+00	0.00E+00	5.62E-01	0.00E+00	0.00E+00	-2.73E+01
Use of renewable secondary fuels	MJ	5.03E-03	0.00E+00	0.00E+00	5.03E-03	0.00E+00	0.00E+00	5.12E+02
Use of non-renewable secondary fuels	MJ	0.00E+00	1.10E+00	0.00E+00	1.10E+00	0.00E+00	0.00E+00	6.48E+01
Net use of fresh water	m <sup>3</sup>	INA	INA	INA	INA	INA	INA	INA
Other environmental information describing waste categories: (DU) 1 door (75 kg) with frame								
Indicator	Unit	A1	A2	A3	A1-A3	C3	C4	D
Hazardous waste disposed	kg	3.31E-04	3.64E-06	1.25E-03	1.59E-03	7.88E-02	2.19E-06	-9.93E-05
Non-hazardous waste disposed	kg	3.88E+00	3.38E-03	1.26E+00	5.14E+00	3.16E-01	6.44E+01	6.25E-01
Radioactive waste disposed	kg	9.22E-03	0.00E+00	0.00E+00	9.22E-03	1.08E-04	5.74E-04	-1.14E-04
Components for re-use	kg	5.63E-03	0.00E+00	1.10E+01	1.10E+01	3.38E-03	0.00E+00	0.00E+00
Materials for recycling	kg	5.41E-03	0.00E+00	4.16E+00	4.17E+00	3.31E-01	0.00E+00	-4.06E-01
Materials for energy recover	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy	MJ per energy carrier	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.08E+01	6.05E-01	0.00E+00

### 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 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: Ph.D. Halina Prejzner	
LCA, LCI audit and input data verification: Ph.D. Eng. Justyna Tomaszewska, j.tomaszewska@itb.pl	
Verification of LCA: Ph.D. Michał Piasecki	

### Normative references

- ITB PCR A General Product Category Rules for Construction Products
- 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
- PN-EN 15942:2012 Sustainability of construction works – Environmental product declarations – Communication format business-to-business
- KOBIZE Wskaźniki emisyjności CO<sub>2</sub>, SO<sub>2</sub>, NO<sub>x</sub>, CO i pyłu całkowitego dla energii elektrycznej, grudzień 2017
- PN-EN 14351-2:2018-12 Okna i drzwi -- Norma wyrobu, właściwości eksploatacyjne -- Część 2: Drzwi wewnętrzne

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# **CERTIFICATE No 104/2020 of TYPE III ENVIRONMENTAL DECLARATION**

Product:

**Interior doors**

Manufacturer:

**Porta KMI Poland Sp. z o.o. Sp. k.**

Szkolna 54, 84-239 Bolszewo, 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 15804:2012+A2:2019**

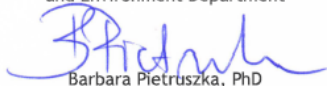
**Sustainability of construction works.**

**Environmental product declarations.**

**Core rules for the product category of construction products.**

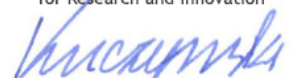
This certificate, issued for the first time on 27<sup>th</sup> March 2020 is valid for 5 years  
or until amendment of mentioned Environmental Declaration

Head of the Thermal Physics, Acoustics  
and Environment Department

  
Barbara Pietruszka, PhD



Deputy Director  
for Research and Innovation

  
Krzysztof Kuczyński, PhD

Warsaw, March 2020