

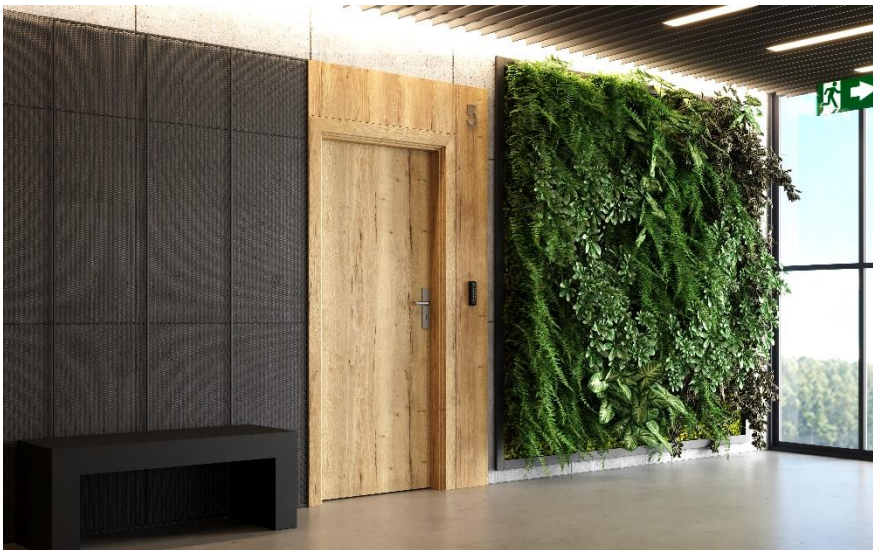


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Interior wooden doors



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-A3, A4-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 standards: PN-EN 14351-2+A1:2016, EN 16034

Service Life: 25 years

PCR: ITB-PCR A

Declared unit: 1 interior wooden door

Reasons for performing LCA: B2B

Representativeness: Poland, Europe, 2023

MANUFACTURER

Porta KMI Poland S.A. is a Polish manufacturer of doors for external and internal use. The company was founded in 1992 and currently employs approximately 1,800 people.



Manufacturing plant located in Bolszewo



Manufacturing plant located in Suwałki



Manufacturing plant located in Elk 1



Manufacturing plant located in Elk 2

Porta KMI Poland S.A. operates in Bolszewo, Elk, Suwałki and Arad (Romania), producing over 85,000 exterior, entrance, interior and technical doors per month. As part of its newly adopted business strategy, the company operates in accordance with the principles of open business, cooperation and development.

The Porta KMI Poland plants include:

- the plant in Bolszewo (PKP) – the largest production plant, where wooden interior and technical doors are manufactured,
- two plants in Elk – production of steel doors (PKM) and wooden doors and wooden door frames (PKS),
- plant in Suwałki (PKD) – production of wooden door leaves and door frames,
- plant in Romania (PKR) – production of wooden interior doors and carpentry and joinery products.



Manufacturing plant located in Romania

PRODUCTS DESCRIPTION

Interior doors manufactured by Porta KMI Poland S.A. are designed for use in private and commercial premises. The company's products include wooden interior doors, technical doors with fire and smoke resistance parameters for various applications, and internal entrance doors with burglary resistance classes, among other features. Depending on the customer's needs, the doors can be manufactured from a wide range of materials and fulfil various functions. The vast majority of wood-based materials used are FSC certified. Porta KMI Poland interior doors can be used in residential buildings, office buildings, hospitals and public buildings, among others. The doors we

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offer vary in terms of their functional properties, making them suitable for a wide range of applications.

Table 1 Characteristic of the wooden interior doors manufactured by PORTA KMI POLAND S.A.

| 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 | 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 | |
| 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 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-PW2-RC4), DT-PW-60 | 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 | |
| Interior entrance doors | DW-A32, DT-K32, DT-PW/II-1, DT-PW/II-2, DT-A37, DT-PW2-RC4, DT-PW-60 | w: 80-100 h: max. 2200 t: 41-54 | full wooden doors with core made of wood-based panels | acrylic paint, natural veneer, CPL and HPL veneer | |
| Interior glazed 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-PW2-RC4) | 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 | |
| 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 | |
| Sliding Systems | ALU, PORTA, KOMPAKT | - | system with trolleys, masking boards and fender beam | natural veneer, CPL and HPL veneer | |

All additional technical information about the product is available on the manufacturer's website and catalogues.

LIFE CYCLE ASSESSMENT (LCA) – general rules applied

Unit

The declared unit is 1 interior wooden door manufactured by Porta KMI Poland S.A.

System boundary

The life cycle analysis of the declared products covers “Product Stage” A1-A3, A4-A5 and “End of Life” C1-C4+D modules in accordance with EN 15804 and ITB PCR A (cradle to gate with options). Energy and water consumption, emissions as well as information on generated wastes were inventoried and were included in the calculation. 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.

Allocation

The allocation rules used for this EPD are based on general ITB 's document PCR A. In the modules A1-A3, material losses in the assembly of the products in the factory are defined on the averaged specific values for the site. Input and output data from the production is inventoried and allocated to the production on the mass basis. The declaration covers a wide range of products (averaged). Their production resources and processing stages are basically similar, depending on dimensions.

System limits

99.0% materials and 100% energy consumption were inventoried in a factory and were included in calculation. In the assessment, all significant parameters from gathered production data are considered, utilized energy, and electric power consumption, direct production waste, and available emission measurements. The total of neglected input flows per module A1-A3 does not exceed the permitted maximum of 1 % of energy usage and product mass. Tires consumption for transport was not taken into account. The components like: foils, papers, labels, tapes with a percentage share of less than 0.1% were not included in the calculations. It is assumed that the total sum of omitted processes does not exceed 1% of all impact categories. In accordance with EN 15804 machines and facilities (capital goods) required for and during production are excluded, as is transportation of employees.

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

Raw materials such as steel, 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.

Module 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.

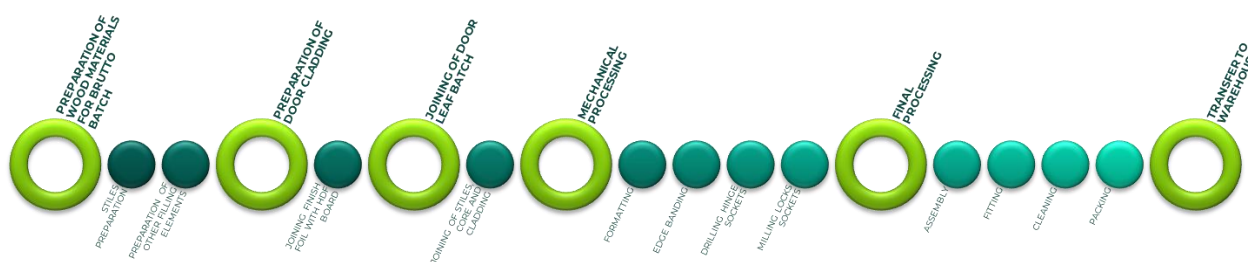


Figure 1 Manufacturing process scheme

Module A4-A5: Transport to consumer and installation

Transport of the steel structure from the Factory to the construction site is carried out using specialized vehicles. Vehicle transport at distance 500 km is considered (emission standard: Euro 5) with 100% load capacity. It was assumed that 5 kWh of energy per unit is required to install the product.

Modules C and D: End-of-life (EOL)

It is assumed that at the end of life the exterior 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). In the adapted end-of-life scenario, the de-constructed products are transported to a recycling/sortation plant distant by 50km on > 16t lorry EURO 5. The reuse, energy recovery and recycling stage is considered beyond the system boundaries (D).

Table 2 End-of-life scenario for the specific products

| Material | Material recovery | Energy recovery | Recycling | Landfilling |
|---------------------|-------------------|-----------------|-----------|-------------|
| steel | 95% | 0% | 100% | 5% |
| wood-based products | 95% | 45% | 45% | 5% |
| polymers | 80% | 30% | 30% | 40% |
| glass | 90% | 0% | 90% | 10% |

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 collection period

The data for manufacture of the declared products refer to period between 01.01.2023 – 31.12.2023 (1 year). The life cycle assessments were prepared for Poland and Europe as reference area.

Data quality

The data selected for LCA originate from ITB-LCI questionnaires completed by PORTA KMI POLAND S.A. and verified during data audit. No data collected is older than five years and no generic datasets used are older than ten years. The representativeness, completeness, reliability, and consistency is judged as good. The background data for the processes come from the following resources database Ecoinvent v.3.11.

Assumptions and estimates

The impacts of the representative products were aggregated using weighted average.

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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 and all other with the EF 3.1. method. No mass balance approach was used. The biogenic C content in product is 35%.

Additional information

Polish electricity (Ecoinvent v 3.11 supplemented by actual national KOBIZE data) emission factor used is 0.597 kg CO₂/kWh (National for 2023). 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 interior wooden door with frame produced in Poland. The following life cycle modules (Table 2) were included in the analysis. The following tables 3-18 show the environmental impacts of the life cycle of selected modules (A1-A5+C1-C4+D).

Table 3 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 |

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Table 4 Life cycle assessment (LCA) results for interior wooden full door with frame – environmental impacts of (DU: 1 door (30 kg) with frame)

| Indicator | Unit | A1 | A2 | A3 | A1-A3 | A4 | A5 | C1 | C2 | C3 | C4 | D |
|---|------------------------|-----------|----------|----------|-----------|----------|----------|----------|----------|----------|----------|-----------|
| Global Warming Potential | eq. kg CO ₂ | -8.63E+00 | 5.26E+00 | 1.27E+01 | 9.33E+00 | 5.01E-01 | 3.43E+00 | 2.75E+00 | 2.57E-01 | 5.84E+01 | 1.66E-01 | -1.88E+01 |
| Greenhouse potential - fossil | eq. kg CO ₂ | 3.10E+01 | 5.26E+00 | 1.24E+01 | 4.86E+01 | 4.99E-01 | 3.43E+00 | 2.74E+00 | 2.56E-01 | 3.18E+00 | 1.66E-01 | -1.87E+01 |
| Greenhouse potential - biogenic | eq. kg CO ₂ | -4.03E+01 | 3.36E-03 | 3.04E-01 | -4.00E+01 | 1.70E-03 | 9.23E-03 | 7.39E-03 | 8.77E-04 | 5.53E+01 | 1.20E-04 | -9.13E-03 |
| Global warming potential - land use and land use change | eq. kg CO ₂ | 7.46E-01 | 1.74E-03 | 8.48E-04 | 7.49E-01 | 1.96E-04 | 5.36E-04 | 4.28E-04 | 1.01E-04 | 8.09E-04 | 9.74E-06 | -4.65E-03 |
| Stratospheric ozone depletion potential | eq. kg CFC 11 | 1.18E-06 | 1.15E-07 | 5.30E-08 | 1.35E-06 | 1.15E-07 | 1.88E-08 | 1.51E-08 | 5.93E-08 | 1.43E-01 | 7.82E-10 | -3.92E-07 |
| Soil and water acidification potential | eq. mol H ⁺ | 5.65E-01 | 1.69E-02 | 9.24E-02 | 6.74E-01 | 2.02E-03 | 3.62E-02 | 2.90E-02 | 1.04E-03 | 7.89E-02 | 1.19E-04 | -3.78E-02 |
| Eutrophication potential - freshwater | eq. kg P | 4.76E-02 | 3.59E-04 | 1.43E-02 | 6.22E-02 | 3.35E-05 | 5.90E-03 | 4.72E-03 | 1.72E-05 | 2.97E-04 | 1.74E-06 | -3.11E-04 |
| Eutrophication potential - seawater | eq. kg N | 6.44E-02 | 5.68E-03 | 1.22E-02 | 8.23E-02 | 6.11E-04 | 5.13E-03 | 4.10E-03 | 3.14E-04 | 4.04E-02 | 3.68E-04 | -7.55E-03 |
| Eutrophication potential - terrestrial | eq. mol N | 6.39E-01 | 6.18E-02 | 1.04E-01 | 8.05E-01 | 6.66E-03 | 4.47E-02 | 3.58E-02 | 3.43E-03 | 4.42E-01 | 4.82E-04 | -7.53E-02 |
| Potential for photochemical ozone synthesis | eq. kg NMVOC | 2.19E-01 | 2.56E-02 | 3.04E-02 | 2.75E-01 | 2.04E-03 | 1.29E-02 | 1.03E-02 | 1.05E-03 | 1.09E-01 | 2.05E-04 | -4.71E-02 |
| Potential for depletion of abiotic resources - non-fossil resources | eq. kg Sb | 3.05E-03 | 1.81E-05 | 3.50E-06 | 3.07E-03 | 1.77E-06 | 1.29E-06 | 1.03E-06 | 9.09E-07 | 3.99E-06 | 3.70E-08 | -4.22E-05 |
| Abiotic depletion potential - fossil fuels | MJ | 4.95E+02 | 7.45E+01 | 1.41E+02 | 7.10E+02 | 7.40E+00 | 5.41E+01 | 4.33E+01 | 3.81E+00 | 8.32E+00 | 3.69E-01 | -2.43E+02 |
| Water deprivation potential | eq. m ³ | 3.30E+01 | 3.91E-01 | 3.16E+00 | 3.66E+01 | 3.42E-02 | 1.03E+00 | 8.27E-01 | 1.76E-02 | 5.02E-01 | 1.71E-03 | -8.72E-01 |

Table 5 Life cycle assessment (LCA) results for interior wooden full door with frame – additional impacts indicators (DU: 1 door (30 kg) with frame)

| 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 |

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Table 6 Life cycle assessment (LCA) results for interior wooden full door with frame - the resource use (DU: 1 door (30 kg) with frame)

| 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 | 6.93E+02 | 1.21E+00 | 1.14E+01 | 7.06E+02 | 1.06E-01 | 4.45E+00 | 3.56E+00 | 5.46E-02 | 1.57E+00 | 5.15E-03 | -1.61E+00 |
| Consumption of renewable primary energy resources used as raw materials | MJ | 3.94E+02 | 0.00E+00 | 0.00E+00 | 3.94E+02 | 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 | 1.09E+03 | 1.21E+00 | 1.14E+01 | 1.10E+03 | 1.06E-01 | 4.45E+00 | 3.56E+00 | 5.46E-02 | 1.57E+00 | 5.37E-03 | -1.61E+00 |
| Consumption of non-renewable primary energy - excluding renewable primary energy sources used as raw materials | MJ | 5.07E+02 | 7.45E+01 | 1.39E+02 | 7.21E+02 | 7.40E+00 | 5.41E+01 | 4.33E+01 | 3.81E+00 | -2.35E+01 | -5.37E+01 | -2.43E+02 |
| Consumption of non-renewable primary energy resources used as raw materials | MJ | 9.27E+01 | 0.00E+00 | 1.55E+00 | 9.42E+01 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.18E+01 | 5.40E+01 | 0.00E+00 |
| Total consumption of non-renewable primary energy resources | MJ | 6.02E+02 | 7.45E+01 | 1.41E+02 | 8.17E+02 | 7.40E+00 | 5.41E+01 | 4.33E+01 | 3.81E+00 | 8.32E+00 | 3.69E-01 | -2.43E+02 |
| Consumption of secondary materials | kg | 9.87E-01 | 3.33E-02 | 1.00E-02 | 1.03E+00 | 2.48E-03 | 4.70E-03 | 3.76E-03 | 1.28E-03 | 7.33E-03 | 1.30E-04 | -2.44E-02 |
| Consumption of renew. secondary fuels | MJ | 6.94E-03 | 4.37E-04 | 1.44E+00 | 1.45E+00 | 2.73E-05 | 2.37E-05 | 1.90E-05 | 1.41E-05 | 7.36E+01 | 2.47E-06 | -8.50E-05 |
| 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 | 0.00E+00 | 0.00E+00 |
| Net consumption of freshwater | m ³ | 8.42E-01 | 9.01E-03 | 9.57E-02 | 9.47E-01 | 9.31E-04 | 1.55E-01 | 1.24E-01 | 4.79E-04 | 4.53E-03 | -5.08E-03 | -1.33E-02 |

Table 7 Life cycle assessment (LCA) results for interior wooden full door with frame – waste categories (DU: 1 door (30 kg) with frame)

| Indicator | Unit | A1 | A2 | A3 | A1-A3 | A4 | A5 | C1 | C2 | C3 | C4 | D |
|-------------------------------|------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|
| Hazardous waste | kg | 3.02E+00 | 1.07E-01 | 1.38E+00 | 4.51E+00 | 8.31E-03 | 4.19E-01 | 3.35E-01 | 4.27E-03 | 3.07E-02 | 6.35E-04 | -4.74E-02 |
| Non-hazardous waste | kg | 9.80E+01 | 2.29E+00 | 7.05E+01 | 1.71E+02 | 1.47E-01 | 2.82E+01 | 2.26E+01 | 7.58E-02 | 1.86E+00 | 6.86E+00 | -1.47E+00 |
| Radioactive waste | kg | 1.50E-03 | 2.19E-05 | 1.59E-05 | 1.54E-03 | 5.53E-07 | 8.12E-06 | 6.49E-06 | 2.84E-07 | 4.15E-05 | 2.57E-07 | -9.19E-02 |
| 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 | 0.00E+00 | 0.00E+00 |
| Materials for recycling | kg | 1.15E-01 | 8.92E-04 | 6.00E+00 | 6.12E+00 | 2.29E-05 | 3.63E-04 | 2.90E-04 | 1.18E-05 | 2.28E-03 | 5.86E-06 | -6.13E-04 |
| Materials for energy recovery | kg | 1.92E-05 | 4.73E-06 | 1.06E-06 | 2.50E-05 | 1.85E-07 | 5.83E-07 | 4.67E-07 | 9.53E-08 | 3.24E-07 | 2.43E-08 | -1.76E-06 |
| Exported Energy | MJ | 2.34E+00 | 3.26E-02 | 4.46E-02 | 2.42E+00 | 0.00E+00 | 1.73E-01 | 1.38E-01 | 0.00E+00 | 4.34E-02 | 7.24E-05 | -2.05E-02 |

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Table 8 Life cycle assessment (LCA) results for interior wooden door with glazing and frame – environmental impacts of (DU: 1 door (35 kg) with frame)

| Indicator | Unit | A1 | A2 | A3 | A1-A3 | A4 | A5 | C1 | C2 | C3 | C4 | D |
|---|------------------------|-----------|----------|----------|-----------|----------|----------|----------|----------|----------|----------|----------|
| Global Warming Potential | eq. kg CO ₂ | -3.73E+00 | 6.14E+00 | 1.27E+01 | 1.51E+01 | 5.84E-01 | 3.43E+00 | 2.75E+00 | 3.00E-01 | 4.35E+01 | 1.66E-01 | 1.88E+01 |
| Greenhouse potential - fossil | eq. kg CO ₂ | 3.58E+01 | 6.13E+00 | 1.24E+01 | 5.44E+01 | 5.82E-01 | 3.43E+00 | 2.74E+00 | 2.99E-01 | 3.19E+00 | 1.66E-01 | 1.88E+01 |
| Greenhouse potential - biogenic | eq. kg CO ₂ | -4.03E+01 | 3.92E-03 | 3.04E-01 | -4.00E+01 | 1.99E-03 | 9.23E-03 | 7.39E-03 | 1.02E-03 | 4.03E+01 | 1.20E-04 | 9.09E-03 |
| Global warming potential - land use and land use change | eq. kg CO ₂ | 7.48E-01 | 2.03E-03 | 8.48E-04 | 7.51E-01 | 2.28E-04 | 5.36E-04 | 4.28E-04 | 1.17E-04 | 8.17E-04 | 9.74E-06 | 4.66E-03 |
| Stratospheric ozone depletion potential | eq. kg CFC 11 | 1.29E-06 | 1.34E-07 | 5.30E-08 | 1.48E-06 | 1.35E-07 | 1.88E-08 | 1.51E-08 | 6.92E-08 | 1.43E-01 | 7.82E-10 | 3.93E-07 |
| Soil and water acidification potential | eq. mol H ⁺ | 6.14E-01 | 1.97E-02 | 9.24E-02 | 7.27E-01 | 2.36E-03 | 3.62E-02 | 2.90E-02 | 1.21E-03 | 2.29E+00 | 1.19E-04 | 3.79E-02 |
| Eutrophication potential - freshwater | eq. kg P | 4.81E-02 | 4.19E-04 | 1.43E-02 | 6.28E-02 | 3.91E-05 | 5.90E-03 | 4.72E-03 | 2.01E-05 | 2.99E-04 | 1.74E-06 | 3.13E-04 |
| Eutrophication potential - seawater | eq. kg N | 7.24E-02 | 6.63E-03 | 1.22E-02 | 9.13E-02 | 7.13E-04 | 5.13E-03 | 4.10E-03 | 3.67E-04 | 1.20E+00 | 3.68E-04 | 7.56E-03 |
| Eutrophication potential - terrestrial | eq. mol N | 7.37E-01 | 7.21E-02 | 1.04E-01 | 9.13E-01 | 7.78E-03 | 4.47E-02 | 3.58E-02 | 4.00E-03 | 1.31E+01 | 4.82E-04 | 7.54E-02 |
| Potential for photochemical ozone synthesis | eq. kg NMVOC | 2.46E-01 | 2.99E-02 | 3.04E-02 | 3.06E-01 | 2.38E-03 | 1.29E-02 | 1.03E-02 | 1.22E-03 | 3.25E+00 | 2.05E-04 | 4.72E-02 |
| Potential for depletion of abiotic resources - non-fossil resources | eq. kg Sb | 3.09E-03 | 2.11E-05 | 3.50E-06 | 3.12E-03 | 2.06E-06 | 1.29E-06 | 1.03E-06 | 1.06E-06 | 4.06E-06 | 3.70E-08 | 4.23E-05 |
| Abiotic depletion potential - fossil fuels | MJ | 5.49E+02 | 8.70E+01 | 1.41E+02 | 7.77E+02 | 8.63E+00 | 5.41E+01 | 4.33E+01 | 4.44E+00 | 8.71E+00 | 3.69E-01 | 2.44E+02 |
| Water deprivation potential | eq. m ³ | 3.44E+01 | 4.56E-01 | 3.16E+00 | 3.80E+01 | 3.99E-02 | 1.03E+00 | 8.27E-01 | 2.05E-02 | 1.67E+00 | 1.71E-03 | 8.80E-01 |

Table 9 Life cycle assessment (LCA) results for interior wooden door with glazing and frame – additional impacts indicators (DU: 1 door (35 kg) with frame)

| 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 |

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Table 10 Life cycle assessment (LCA) results for interior wooden door with glazing and frame - the resource use (DU: 1 door (35 kg) with frame)

| 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 | 6.96E+02 | 1.42E+00 | 1.14E+01 | 7.09E+02 | 1.24E-01 | 4.45E+00 | 3.56E+00 | 6.37E-02 | 1.58E+00 | 5.15E-03 | -1.62E+00 |
| Consumption of renewable primary energy resources used as raw materials | MJ | 3.94E+02 | 0.00E+00 | 0.00E+00 | 3.94E+02 | 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 | 1.09E+03 | 1.42E+00 | 1.14E+01 | 1.10E+03 | 1.24E-01 | 4.45E+00 | 3.56E+00 | 6.37E-02 | 1.58E+00 | 5.37E-03 | -1.62E+00 |
| Consumption of non-renewable primary energy - excluding renewable primary energy sources used as raw materials | MJ | 5.61E+02 | 8.70E+01 | 1.39E+02 | 7.87E+02 | 8.64E+00 | 5.41E+01 | 4.33E+01 | 4.44E+00 | 1.24E+03 | 5.37E+01 | -2.44E+02 |
| Consumption of non-renewable primary energy resources used as raw materials | MJ | 9.27E+01 | 0.00E+00 | 1.55E+00 | 9.42E+01 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.25E+03 | 5.40E+01 | -2.59E-01 |
| Total consumption of non-renewable primary energy resources | MJ | 6.56E+02 | 8.70E+01 | 1.41E+02 | 8.84E+02 | 8.64E+00 | 5.41E+01 | 4.33E+01 | 4.44E+00 | 8.71E+00 | 3.69E-01 | -2.44E+02 |
| Consumption of secondary materials | kg | 9.99E-01 | 3.88E-02 | 1.00E-02 | 1.05E+00 | 2.89E-03 | 4.70E-03 | 3.76E-03 | 1.49E-03 | 7.39E-03 | 1.30E-04 | -2.45E-02 |
| Consumption of renew. secondary fuels | MJ | 9.83E-03 | 5.10E-04 | 1.44E+00 | 1.45E+00 | 3.19E-05 | 2.37E-05 | 1.90E-05 | 1.64E-05 | 7.36E+01 | 2.47E-06 | -8.93E-05 |
| 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 | 0.00E+00 | 0.00E+00 |
| Net consumption of freshwater | m ³ | 8.72E-01 | 1.05E-02 | 9.57E-02 | 9.78E-01 | 1.09E-03 | 1.55E-01 | 1.24E-01 | 5.59E-04 | 4.72E-03 | 5.08E-03 | -1.35E-02 |

Table 11 Life cycle assessment (LCA) results for interior wooden door with glazing and frame – waste categories (DU: 1 door (35 kg) with frame)

| Indicator | Unit | A1 | A2 | A3 | A1-A3 | A4 | A5 | C1 | C2 | C3 | C4 | D |
|-------------------------------|------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Hazardous waste | kg | 3.10E+00 | 1.25E-01 | 1.38E+00 | 4.61E+00 | 9.69E-03 | 4.19E-01 | 3.35E-01 | 4.98E-03 | 3.14E-02 | 6.35E-04 | 4.80E-02 |
| Non-hazardous waste | kg | 1.02E+02 | 2.67E+00 | 7.05E+01 | 1.76E+02 | 1.72E-01 | 2.82E+01 | 2.26E+01 | 8.85E-02 | 1.88E+00 | 6.86E+00 | 1.48E+00 |
| Radioactive waste | kg | 1.55E-03 | 2.56E-05 | 1.59E-05 | 1.59E-03 | 6.45E-07 | 8.12E-06 | 6.49E-06 | 3.32E-07 | 4.16E-05 | 2.57E-07 | 9.19E-02 |
| 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 | 0.00E+00 | 0.00E+00 |
| Materials for recycling | kg | 1.17E-01 | 1.04E-03 | 6.00E+00 | 6.12E+00 | 2.67E-05 | 3.63E-04 | 2.90E-04 | 1.37E-05 | 2.33E-03 | 5.86E-06 | 6.70E-04 |
| Materials for energy recovery | kg | 2.47E-05 | 5.52E-06 | 1.06E-06 | 3.13E-05 | 2.16E-07 | 5.83E-07 | 4.67E-07 | 1.11E-07 | 3.39E-07 | 2.43E-08 | 1.78E-06 |
| Exported Energy | MJ | 2.79E+00 | 3.80E-02 | 4.46E-02 | 2.87E+00 | 0.00E+00 | 1.73E-01 | 1.38E-01 | 0.00E+00 | 4.35E-02 | 7.24E-05 | 2.06E-02 |

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Table 12 Life cycle assessment (LCA) results for interior technical wooden full door with frame – environmental impacts of (DU: 1 door (45 kg) with frame)

| Indicator | Unit | A1 | A2 | A3 | A1-A3 | A4 | A5 | C1 | C2 | C3 | C4 | D |
|---|------------------------|-----------|----------|----------|-----------|----------|----------|----------|----------|----------|----------|-----------|
| Global Warming Potential | eq. kg CO ₂ | -1.33E+01 | 7.89E+00 | 1.69E+01 | 1.15E+01 | 7.51E-01 | 3.43E+00 | 2.75E+00 | 3.86E-01 | 5.36E+01 | 1.66E-01 | -2.41E+01 |
| Greenhouse potential - fossil | eq. kg CO ₂ | 3.74E+01 | 7.88E+00 | 1.64E+01 | 6.17E+01 | 7.48E-01 | 3.43E+00 | 2.74E+00 | 3.85E-01 | 2.47E+00 | 1.66E-01 | -2.41E+01 |
| Greenhouse potential - biogenic | eq. kg CO ₂ | -5.11E+01 | 5.04E-03 | 4.56E-01 | -5.06E+01 | 2.56E-03 | 9.23E-03 | 7.39E-03 | 1.31E-03 | 5.11E+01 | 1.20E-04 | -1.17E-02 |
| Global warming potential - land use and land use change | eq. kg CO ₂ | 4.35E-01 | 2.62E-03 | 1.27E-03 | 4.38E-01 | 2.94E-04 | 5.36E-04 | 4.28E-04 | 1.51E-04 | 6.30E-04 | 9.74E-06 | -5.98E-03 |
| Stratospheric ozone depletion potential | eq. kg CFC 11 | 1.42E-06 | 1.72E-07 | 7.96E-08 | 1.67E-06 | 1.73E-07 | 1.88E-08 | 1.51E-08 | 8.90E-08 | 1.11E-01 | 7.82E-10 | -5.04E-07 |
| Soil and water acidification potential | eq. mol H ⁺ | 6.08E-01 | 2.53E-02 | 1.39E-01 | 7.72E-01 | 3.04E-03 | 3.62E-02 | 2.90E-02 | 1.56E-03 | 6.14E-02 | 1.19E-04 | -4.87E-02 |
| Eutrophication potential - freshwater | eq. kg P | 4.28E-02 | 5.38E-04 | 2.14E-02 | 6.47E-02 | 5.03E-05 | 5.90E-03 | 4.72E-03 | 2.59E-05 | 2.31E-04 | 1.74E-06 | -4.00E-04 |
| Eutrophication potential - seawater | eq. kg N | 7.33E-02 | 8.52E-03 | 1.83E-02 | 1.00E-01 | 9.16E-04 | 5.13E-03 | 4.10E-03 | 4.71E-04 | 3.14E-02 | 3.68E-04 | -9.71E-03 |
| Eutrophication potential - terrestrial | eq. mol N | 7.70E-01 | 9.27E-02 | 1.56E-01 | 1.02E+00 | 1.00E-02 | 4.47E-02 | 3.58E-02 | 5.14E-03 | 3.43E-01 | 4.82E-04 | -9.68E-02 |
| Potential for photochemical ozone synthesis | eq. kg NMVOC | 2.59E-01 | 3.84E-02 | 4.56E-02 | 3.43E-01 | 3.06E-03 | 1.29E-02 | 1.03E-02 | 1.57E-03 | 8.49E-02 | 2.05E-04 | -6.06E-02 |
| Potential for depletion of abiotic resources - non-fossil resources | eq. kg Sb | 4.05E-03 | 2.72E-05 | 5.24E-06 | 4.08E-03 | 2.65E-06 | 1.29E-06 | 1.03E-06 | 1.36E-06 | 3.10E-06 | 3.70E-08 | -5.42E-05 |
| Abiotic depletion potential - fossil fuels | MJ | 5.81E+02 | 1.12E+02 | 2.12E+02 | 9.04E+02 | 1.11E+01 | 5.41E+01 | 4.33E+01 | 5.71E+00 | 6.47E+00 | 3.69E-01 | -3.13E+02 |
| Water deprivation potential | eq. m ³ | 3.61E+01 | 5.86E-01 | 4.73E+00 | 4.15E+01 | 5.13E-02 | 1.03E+00 | 8.27E-01 | 2.64E-02 | 3.91E-01 | 1.71E-03 | -1.12E+00 |

Table 13 Life cycle assessment (LCA) results for interior technical wooden full door with frame – additional impacts indicators (DU: 1 door (45 kg) with frame)

| 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 |

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Table 14 Life cycle assessment (LCA) results for interior technical wooden full door with frame - the resource use (DU: 1 door (45 kg) with frame)

| 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 | 7.63E+02 | 1.82E+00 | 1.71E+01 | 7.82E+02 | 1.59E-01 | 4.45E+00 | 3.56E+00 | 8.19E-02 | 1.22E+00 | 5.15E-03 | -2.07E+00 |
| Consumption of renewable primary energy resources used as raw materials | MJ | 4.65E+02 | 0.00E+00 | 0.00E+00 | 4.65E+02 | 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 | 1.23E+03 | 1.82E+00 | 1.71E+01 | 1.25E+03 | 1.59E-01 | 4.45E+00 | 3.56E+00 | 8.19E-02 | 1.22E+00 | 5.37E-03 | -2.07E+00 |
| Consumption of non-renewable primary energy - excluding renewable primary energy sources used as raw materials | MJ | 5.76E+02 | 1.12E+02 | 2.09E+02 | 8.97E+02 | 1.11E+01 | 5.41E+01 | 4.33E+01 | 5.71E+00 | -1.83E+01 | -5.37E+01 | -3.13E+02 |
| Consumption of non-renewable primary energy resources used as raw materials | MJ | 9.83E+01 | 0.00E+00 | 2.32E+00 | 1.01E+02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.48E+01 | 5.40E+01 | 0.00E+00 |
| Total consumption of non-renewable primary energy resources | MJ | 6.77E+02 | 1.12E+02 | 2.12E+02 | 1.00E+03 | 1.11E+01 | 5.41E+01 | 4.33E+01 | 5.71E+00 | 6.47E+00 | 3.69E-01 | -3.13E+02 |
| Consumption of secondary materials | kg | 1.13E+00 | 4.99E-02 | 1.50E-02 | 1.19E+00 | 3.72E-03 | 4.70E-03 | 3.76E-03 | 1.91E-03 | 5.70E-03 | 1.30E-04 | -3.14E-02 |
| Consumption of renew. secondary fuels | MJ | 3.09E-01 | 6.55E-04 | 2.16E+00 | 2.47E+00 | 4.10E-05 | 2.37E-05 | 1.90E-05 | 2.11E-05 | 5.72E+01 | 2.47E-06 | -1.09E-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 | 0.00E+00 | 0.00E+00 |
| Net consumption of freshwater | m ³ | 9.17E-01 | 1.35E-02 | 1.44E-01 | 1.07E+00 | 1.40E-03 | 1.55E-01 | 1.24E-01 | 7.18E-04 | 3.52E-03 | -5.08E-03 | -1.71E-02 |

Table 15 Life cycle assessment (LCA) results for interior technical wooden full door with frame – waste categories (DU: 1 door (45 kg) with frame)

| Indicator | Unit | A1 | A2 | A3 | A1-A3 | A4 | A5 | C1 | C2 | C3 | C4 | D |
|-------------------------------|------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Hazardous waste | kg | 3.08E+00 | 1.60E-01 | 2.08E+00 | 5.31E+00 | 1.25E-02 | 4.19E-01 | 3.35E-01 | 6.41E-03 | 2.39E-02 | 6.35E-04 | 6.09E-02 |
| Non-hazardous waste | kg | 9.09E+01 | 3.44E+00 | 1.05E+02 | 2.00E+02 | 2.21E-01 | 2.82E+01 | 2.26E+01 | 1.14E-01 | 1.45E+00 | 6.86E+00 | 1.89E+00 |
| Radioactive waste | kg | 1.77E-03 | 3.29E-05 | 2.39E-05 | 1.83E-03 | 8.29E-07 | 8.12E-06 | 6.49E-06 | 4.26E-07 | 3.23E-05 | 2.57E-07 | 1.18E-01 |
| 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 | 0.00E+00 | 0.00E+00 |
| Materials for recycling | kg | 1.64E-01 | 1.34E-03 | 6.00E+00 | 6.17E+00 | 3.44E-05 | 3.63E-04 | 2.90E-04 | 1.77E-05 | 1.77E-03 | 5.86E-06 | 7.88E-04 |
| Materials for energy recovery | kg | 2.15E-05 | 7.09E-06 | 1.59E-06 | 3.01E-05 | 2.78E-07 | 5.83E-07 | 4.67E-07 | 1.43E-07 | 2.52E-07 | 2.43E-08 | 2.27E-06 |
| Exported Energy | MJ | 1.90E+00 | 4.89E-02 | 6.70E-02 | 2.02E+00 | 0.00E+00 | 1.73E-01 | 1.38E-01 | 0.00E+00 | 3.38E-02 | 7.24E-05 | 2.64E-02 |

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Table 16 Life cycle assessment (LCA) results for interior technical wooden door with glazing and frame – environmental impacts of (DU: 1 door (50 kg) with frame)

| Indicator | Unit | A1 | A2 | A3 | A1-A3 | A4 | A5 | C1 | C2 | C3 | C4 | D |
|---|------------------------|-----------|----------|----------|-----------|----------|----------|----------|----------|----------|----------|-----------|
| Global Warming Potential | eq. kg CO ₂ | -8.36E+00 | 8.77E+00 | 1.83E+01 | 1.87E+01 | 8.34E-01 | 3.43E+00 | 2.75E+00 | 4.29E-01 | 5.95E+01 | 1.85E-01 | -2.68E+01 |
| Greenhouse potential - fossil | eq. kg CO ₂ | 4.23E+01 | 8.76E+00 | 1.77E+01 | 6.88E+01 | 8.31E-01 | 3.43E+00 | 2.74E+00 | 4.27E-01 | 2.75E+00 | 1.85E-01 | -2.68E+01 |
| Greenhouse potential - biogenic | eq. kg CO ₂ | -5.11E+01 | 5.60E-03 | 5.06E-01 | -5.06E+01 | 2.84E-03 | 9.23E-03 | 7.39E-03 | 1.46E-03 | 5.68E+01 | 1.34E-04 | -1.30E-02 |
| Global warming potential - land use and land use change | eq. kg CO ₂ | 4.36E-01 | 2.91E-03 | 1.41E-03 | 4.40E-01 | 3.26E-04 | 5.36E-04 | 4.28E-04 | 1.68E-04 | 6.99E-04 | 1.08E-05 | -6.64E-03 |
| Stratospheric ozone depletion potential | eq. kg CFC 11 | 1.53E-06 | 1.91E-07 | 8.84E-08 | 1.81E-06 | 1.92E-07 | 1.88E-08 | 1.51E-08 | 9.89E-08 | 1.24E-01 | 8.69E-10 | -5.60E-07 |
| Soil and water acidification potential | eq. mol H ⁺ | 6.58E-01 | 2.81E-02 | 1.54E-01 | 8.40E-01 | 3.37E-03 | 3.62E-02 | 2.90E-02 | 1.73E-03 | 6.82E-02 | 1.32E-04 | -5.41E-02 |
| Eutrophication potential - freshwater | eq. kg P | 4.34E-02 | 5.98E-04 | 2.38E-02 | 6.77E-02 | 5.59E-05 | 5.90E-03 | 4.72E-03 | 2.87E-05 | 2.57E-04 | 1.93E-06 | -4.44E-04 |
| Eutrophication potential - seawater | eq. kg N | 8.13E-02 | 9.47E-03 | 2.04E-02 | 1.11E-01 | 1.02E-03 | 5.13E-03 | 4.10E-03 | 5.24E-04 | 3.49E-02 | 4.09E-04 | -1.08E-02 |
| Eutrophication potential - terrestrial | eq. mol N | 8.67E-01 | 1.03E-01 | 1.74E-01 | 1.14E+00 | 1.11E-02 | 4.47E-02 | 3.58E-02 | 5.71E-03 | 3.82E-01 | 5.36E-04 | -1.08E-01 |
| Potential for photochemical ozone synthesis | eq. kg NMVOC | 2.86E-01 | 4.26E-02 | 5.06E-02 | 3.79E-01 | 3.40E-03 | 1.29E-02 | 1.03E-02 | 1.75E-03 | 9.43E-02 | 2.27E-04 | -6.73E-02 |
| Potential for depletion of abiotic resources - non-fossil resources | eq. kg Sb | 4.09E-03 | 3.02E-05 | 5.81E-06 | 4.13E-03 | 2.95E-06 | 1.29E-06 | 1.03E-06 | 1.52E-06 | 3.45E-06 | 4.11E-08 | -6.03E-05 |
| Abiotic depletion potential - fossil fuels | MJ | 6.35E+02 | 1.24E+02 | 2.35E+02 | 9.94E+02 | 1.23E+01 | 5.41E+01 | 4.33E+01 | 6.34E+00 | 7.19E+00 | 4.10E-01 | -3.47E+02 |
| Water deprivation potential | eq. m ³ | 3.75E+01 | 6.51E-01 | 5.26E+00 | 4.34E+01 | 5.70E-02 | 1.03E+00 | 8.27E-01 | 2.93E-02 | 4.34E-01 | 1.90E-03 | -1.25E+00 |

Table 17 Life cycle assessment (LCA) results for interior technical wooden full door with glazing and frame – additional impacts indicators (DU: 1 door (50 kg) with frame)

| 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 |

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Table 18 Life cycle assessment (LCA) results for interior technical wooden full door with glazing and frame - the resource use (DU: 1 door (50 kg) with frame)

| 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 | 7.66E+02 | 2.02E+00 | 1.89E+01 | 7.87E+02 | 1.77E-01 | 4.45E+00 | 3.56E+00 | 9.10E-02 | 1.36E+00 | 5.72E-03 | -2.30E+00 |
| Consumption of renewable primary energy resources used as raw materials | MJ | 4.65E+02 | 0.00E+00 | 0.00E+00 | 4.65E+02 | 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 | 1.23E+03 | 2.02E+00 | 1.89E+01 | 1.25E+03 | 1.77E-01 | 4.45E+00 | 3.56E+00 | 9.10E-02 | 1.36E+00 | 5.97E-03 | -2.30E+00 |
| Consumption of non-renewable primary energy - excluding renewable primary energy sources used as raw materials | MJ | 6.30E+02 | 1.24E+02 | 2.32E+02 | 9.86E+02 | 1.23E+01 | 5.41E+01 | 4.33E+01 | 6.34E+00 | -2.03E+01 | -5.97E+01 | -3.48E+02 |
| Consumption of non-renewable primary energy resources used as raw materials | MJ | 9.83E+01 | 0.00E+00 | 2.58E+00 | 1.01E+02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.75E+01 | 6.01E+01 | 0.00E+00 |
| Total consumption of non-renewable primary energy resources | MJ | 7.31E+02 | 1.24E+02 | 2.35E+02 | 1.09E+03 | 1.23E+01 | 5.41E+01 | 4.33E+01 | 6.34E+00 | 7.19E+00 | 4.10E-01 | -3.48E+02 |
| Consumption of secondary materials | kg | 1.14E+00 | 5.55E-02 | 1.67E-02 | 1.21E+00 | 4.14E-03 | 4.70E-03 | 3.76E-03 | 2.13E-03 | 6.33E-03 | 1.44E-04 | -3.49E-02 |
| Consumption of renew. secondary fuels | MJ | 3.12E-01 | 7.28E-04 | 2.40E+00 | 2.71E+00 | 4.56E-05 | 2.37E-05 | 1.90E-05 | 2.34E-05 | 6.36E+01 | 2.74E-06 | -1.21E-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 | 0.00E+00 | 0.00E+00 |
| Net consumption of freshwater | m ³ | 9.47E-01 | 1.50E-02 | 1.52E-01 | 1.11E+00 | 1.55E-03 | 1.55E-01 | 1.24E-01 | 7.98E-04 | 3.91E-03 | -5.64E-03 | -1.90E-02 |

Table 19 Life cycle assessment (LCA) results for interior technical wooden full door with glazing and frame – waste categories (DU: 1 door (50 kg) with frame)

| Indicator | Unit | A1 | A2 | A3 | A1-A3 | A4 | A5 | C1 | C2 | C3 | C4 | D |
|-------------------------------|------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|
| Hazardous waste | kg | 3.17E+00 | 1.78E-01 | 2.31E+00 | 5.65E+00 | 1.38E-02 | 4.19E-01 | 3.35E-01 | 7.12E-03 | 2.66E-02 | 7.05E-04 | -6.77E-02 |
| Non-hazardous waste | kg | 9.52E+01 | 3.82E+00 | 1.17E+02 | 2.16E+02 | 2.46E-01 | 2.82E+01 | 2.26E+01 | 1.26E-01 | 1.61E+00 | 7.62E+00 | -2.10E+00 |
| Radioactive waste | kg | 1.82E-03 | 3.65E-05 | 2.63E-05 | 1.88E-03 | 9.21E-07 | 8.12E-06 | 6.49E-06 | 4.74E-07 | 3.59E-05 | 2.86E-07 | -1.31E-01 |
| 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 | 0.00E+00 | 0.00E+00 |
| Materials for recycling | kg | 1.66E-01 | 1.49E-03 | 6.00E+00 | 6.17E+00 | 3.82E-05 | 3.63E-04 | 2.90E-04 | 1.96E-05 | 1.97E-03 | 6.51E-06 | -8.75E-04 |
| Materials for energy recovery | kg | 2.70E-05 | 7.88E-06 | 1.76E-06 | 3.66E-05 | 3.09E-07 | 5.83E-07 | 4.67E-07 | 1.59E-07 | 2.80E-07 | 2.70E-08 | -2.52E-06 |
| Exported Energy | MJ | 2.34E+00 | 5.43E-02 | 7.42E-02 | 2.47E+00 | 0.00E+00 | 1.73E-01 | 1.38E-01 | 0.00E+00 | 3.75E-02 | 8.04E-05 | -2.93E-02 |

Type III Environmental Product Declaration No. 836/2025

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 (sub clause 8.1.3.) | |
| <input checked="" type="checkbox"/> external | <input type="checkbox"/> internal |
| External verification of EPD: Halina Prejzner, PhD. Eng. LCI verification: Michał Chwedaczuk, M.Sc. Eng. LCA, LCI 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 (see 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
- ISO 14025:2006, Environmental labels and declarations – Type III environmental declarations – Principles and procedures
- 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
- PN-EN 15942:2012 Sustainability of construction works – Environmental product declarations – Communication format business-to-business
- ISO 20915:2018 Life cycle inventory calculation methodology for steel products
- KOBiZE Wskaźniki emisyjności CO₂, SO₂, NO_x, CO i pyłu całkowitego dla energii elektrycznej. December 2024
- World Steel Association 2023 Life Cycle inventory methodology report for steel products
- <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 No 836/2025 of TYPE III ENVIRONMENTAL DECLARATION

Products:

Wooden interior doors

Manufacturer:

PORTA KMI POLAND S.A.

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+A2

Sustainability of construction works.

Environmental product declarations.

Core rules for the product category of construction products.

This certificate, issued on 28th March 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
Agnieszka Winkler-Skalna, PhD



Deputy Director
for Research and Innovation

Krzysztof Kuczyński
Krzysztof Kuczyński, PhD

Warsaw, March 2025