# One Leaf Door

| | |
|---|---|
| **Program operator, publisher:** | Rakennustietosäätiö RTS, The Building Information Foundation RTS<br>Malminkatu 16 A 00100 Helsinki http://cer.rts.fi |
| **Owner of the declaration:** | Fenestra AS |
| **Name of the product:** | One Leaf Door |
| **Declaration number:** | RTS_349_25 |
| **Issue date:** | 21.2.2025 |
| **Valid to:** | 21.2.2030 |
| **Scope of the declaration** | This environmental product declaration covers the environmental impacts of One Leaf Door product. The declaration has been prepared in accordance with EN 15804:2019 and ISO 14025 standards and the additional requirements stated in the RTS PCR (English version, 26.8.2020). This declaration covers the life cycle stages from cradle to gate with options, modules C1-C4, and module D |

Jukka Seppänen
RTS EPD Committee Secretary

Laura Apilo
Managing Director

Verified according to the requirements of EN 15804:2019 (product group rules) based on EF 3.1

Independent verification of the declaration and data, according to ISO14025:2010

| ☐ Internal | ☒ External |
|---|---|

Third party verifier:

14.11.2024
Mari Kirss, Rangi Maja OÜ

# GENERAL INFORMATION, OBJECTIVE AND VERIFICATION OF THE STATEMENT

### 1. Owner of the declaration, manufacturer

Fenestra AS

Kaabli 23 a, 10112 Peetri alevik, Rae vald

Kaidi Orasmae, kaidi.orasmae@fenestra.ee

### 2. Product name and number

One Leaf Door

### 3. Place of production

Produced in Estonia: Kaabli 23 a, 10112 Peetri alevik, Rae vald, Harjumaa.

### 4. Additional information

The One Leaf Door is a representative product for IOU, Fenix Patio, and Fenix Door, doors manufactured by Fenestra AS.

### 5. Product Category Rules and the scope of the declaration

The declaration has been prepared in accordance with EN 15804:2019 and ISO 14025 standards and the additional requirements stated in the RTS PCR (English version, 26.8.2020).

### 6. Author of the life-cycle assessment and declaration

Fabian Diaz, Bureau Veritas Latvia. Duntes iela 17A, Ziemeļu rajons, Rīga, LV-1005, Latvia.

### 7. Verification

The declaration has been prepared in accordance with EN 15804:2019 and ISO 14025 standards and the additional requirements stated in the RTS PCR (English version, 26.8.2020). The declaration was verified by Mari Kirss from Rangi Maja OÜ according to the abovementioned standards and PCR rules. Third-party verification on 14.11.2024.

### 8. Declaration issue date and validity

Declaration is valid 21.2.2025- 21.2.2030.

# PRODUCT INFORMATION

### 9. Product description and its use

This declaration is made for the One Leaf Door product, a representative door product manufactured by Fenestra AS that includes the characteristics of the following one-leaf Fenestra AS doors. The creation of an average product was performed because it was not possible to disaggregate the production data in terms of materials, energy consumption, and waste of each product. The average product is thus characteristic of the year 2022 production. The difference in the results in the environmental indicators is anyway included in a range of ±10% among the different products named as follows.

- **Fenix**

The Fenestra Fenix is a high-quality, economical, and energy-efficient balcony door suitable for apartment buildings and private houses. The single-leaf wood-aluminum balcony door with triple glazing can be opened inwards. The frame and casing of the balcony door are externally covered with aluminum profiles. Different appearance options exist, standard full glass or partial panel balcony doors. The balcony door has many different color or stain options.

- **Fenix Patio**

The Fenestra Fenix Patio is a high-quality, economical, and energy-efficient balcony door suitable for apartment buildings and private houses. The single-leaf wood-aluminum sliding balcony door frame and the outer surface of the door leaf are covered with aluminum profiles. The balcony door has many different colors or stains.

- **IOU**

The Fenestra IOU is a high-quality, economical, and energy-efficient balcony door suitable for apartment buildings and private houses. It is a single-leaf wooden aluminum balcony door with triple glazing that opens outwards. The frame of the balcony door and the outer surface of the door leaf are covered with aluminum profiles. The balcony door has an oak threshold. Standard

appearance options exist with full glass, special solutions with a spacer, or partially closed parts. There are many different colors or stain options to choose from.

The volume production for each of the products for the year 2022 is reported in the table below.

| Product | Share |
|---|---|
| Fenix | 29.77% |
| Fenix Patio | 2.15% |
| IOU | 68.08% |

## 10. Results of environmental information reported per kilogram*

| Information content | Unit | A1-A3 | C1 | C2 | C3 | C4 | D |
|---|---|---|---|---|---|---|---|
| Global Warming Potential total (GWP-total) | kg CO2eq./kg | 2.03E+00 | 0.00E+00 | 7.75E-03 | 5.27E-01 | 1.28E-03 | -2.50E-01 |
| Abiotic depletion potential for non-fossil resources ADP Minerals & Metals) | kg Sb eq./kg | 9.10E-06 | 0.00E+00 | 2.56E-10 | 2.48E-07 | 1.32E-10 | 4.69E-06 |
| Abiotic depletion for fossil resources potential (ADP-fossil) | MJ. Net calorific value/kg | 3.02E+01 | 0.00E+00 | 1.02E-01 | 2.10E-01 | 7.32E-03 | -4.05E+00 |
| Water (user) deprivation potential, deprivation-weighted water consumption (WDP) | M3world eq. deprived/kg | 5.26E-01 | 0.00E+00 | 4.35E-05 | 1.66E-02 | -1.60E-04 | 3.69E-02 |
| Biogenic carbon content in product | kg C/kg | 5.77E+00 | 0 | 0 | 0 | 0 | 0 |
| Use of secondary material | kg/kg | 4.79E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 7.69E-01 |

* Compulsory table

## 11. Product standards (c-PCR)

No c-PCR has been followed.

## 12. Physical properties

The physical properties of the products are reported in the table below.

| Physical properties | Fenix | Fenix Patio | IOU |
|---|---|---|---|
| Heat retention U, W/(m$^2$K) with standard glass | 0.83 | 0.83 | 0.78 |
| Heat retention U, W/(m$^2$K) with special glass | 0.79 | 0.79 | 0.74 |
| Sound insulation Rw, dB | 33 - 42 | 33 - 41 | 33 - 45 |
| Glass thickness | Average of 52 mm | | |

## 13. Raw materials of the product and product information (used in production)

| Product structure/composition/raw material | Quantity p%* | Share of scrap | Usability | | | Origin of the raw materials |
|---|---|---|---|---|---|---|
| | | | Renewable | Non-renewable | Recycled | |
| Steel hardware | ~3 | 55% | | x | x | FI |
| Aluminum profile | ~7 | 49.07% | | x | x | NO/PL/EE |
| High-density fiberboard | <1 | 0% | x | | | EE |
| Oak wood structure | ~3 | 0% | x | | | LT/LV |
| Pine timber structure | ~20 | 0% | x | | | EE |
| Gasket | <1 | 0% | | x | | EE |
| Water based color | ~3 | 0% | | x | | EE |
| Triple glazed glass | ~64 | 0% | | x | | LT/EE |
| Silicone | <1 | 0% | | x | | EE |

*Order of magnitude, not exact composition.
N.B. All the wood used in the product comes from a sustainable forestry management system.

Product main composition.

| Product structure/composition/raw material | quantity p%* | Origin of the raw materials |
|---|---|---|
| Metals | ~10 | FI/NO/PL/EE |
| Stone-based materials (minerals) | ~64 | LT/EE |
| Fossil materials | <1 | EE |
| Water-based materials | ~3 | EE |
| Bio-based materials | ~23 | LT/LV |

* Order of magnitude, not exact composition

## 14. Packaging material content

| Product structure/composition/raw-material | quantity p%* |
|---|---|
| Plastic | ~6 |
| Paper and cardboard | ~1 |
| Aluminum | <1 |
| Wood | ~93 |

* Order of magnitude, not exact composition

## 15. Substances under European Chemicals Agency's REACH, SVHC restrictions

The water-based color contains some components that are included in the REACH list. Their composition is anyway lower than 1% of the total product mass.

| Name | EC Number | CAS Number |
|---|---|---|
| 2-butoxyethanol | 203-905-0 | 111-76-2 |
| 2-methyl-2H-isothiazol-3-one | 220-239-6 | 2682-20-4 |
| (2-methoxymethylethoxy) propanol | 252-104-2 | 34590-94-8 |
| 2,4,7,9-tetramethyldec-5-yne-4,7-diol | - | 126-86-3 |

## SCOPE OF LIFE CYCLE ASSESSMENT

Mark all the covered modules of the EPD with X. Mandatory modules are marked blue in the table below. This declaration covers “cradle-to-gate with options”. ”R” represents relevant stages, and “NR” the non-relevant ones.

| Product stage | | | Construction process stage | | Use stage | | | | | | | End-of-life stage | | | | Supplementary information beyond the life cycle | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A1 | A2 | A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 | D | D | D |
| ☒ | ☒ | ☒ | NR | NR | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☒ | ☒ | ☒ | ☒ | ☒ | ☒ | ☒ |
| Raw material supply | Transport | Manufacturing | Transport | Construction-installation process | Use | Maintenance | Repair | Replacement | Refurbishment | Operational energy use | Operational water use | De-construction demolition | Transport | Waste processing | Disposal | Reuse | Recovery | Recycling |

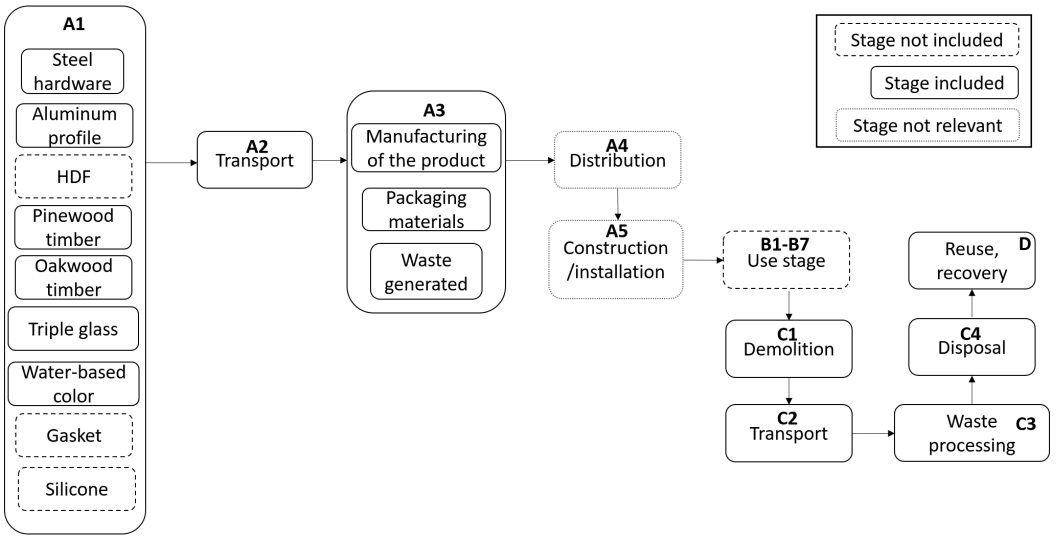
| | |
|---|---|
| | Mandatory modules |
| | Mandatory as per the RTS PCR section 6.2.1 rules and terms |
| | Optional modules based on scenarios |

### 16. Declared unit

Indicators are reported per 1m$^2$ of the One Leaf Door product. The weight of the declared unit is equal to 48.92 kg. The related packaging is 1.04 kg.

### 17. System boundary

This EPD covers the following modules: A1 (Raw material supply), A2 (Transport), and A3 (Manufacturing). In addition, the end-of-life stage includes information from C1- C4 and beyond the life cycle information from the D module. The scenarios included are currently in use and are representative of one of the most likely scenario alternatives. The figure below provides information on the system boundaries.

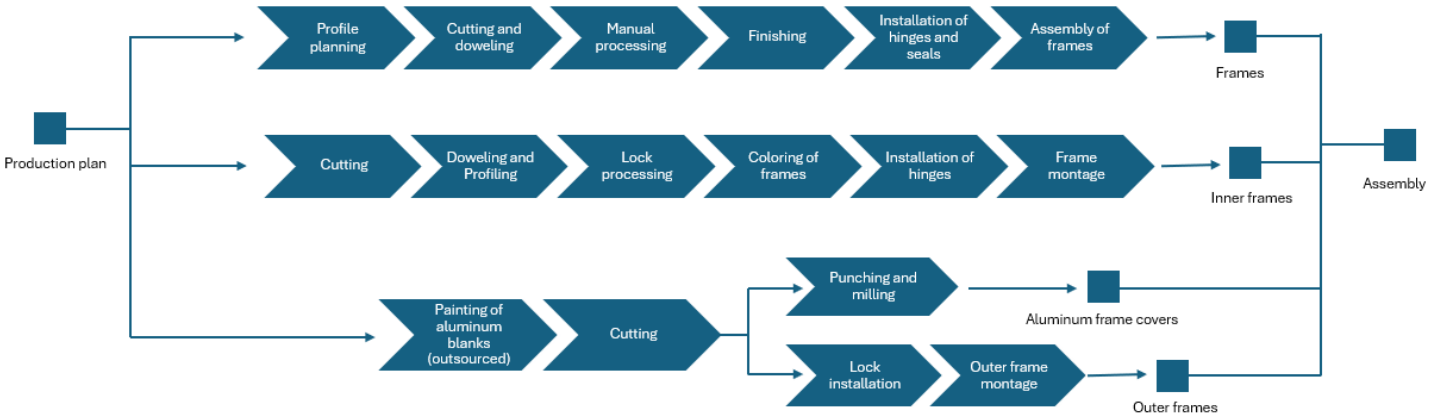



## 18. Cut-off criteria

Data for A1-A3 and C and additional information on scenarios in Module D have been collected for review. Modules A1 to A3 include all the raw materials used, energy production (electricity, heat, and fuels), primary production and processing of raw materials and fuels, transport, and final disposal or processing of products. All material and energy inputs have been considered in procuring raw materials. Raw materials with a mass of less than 1% of the total product are reported but excluded from the model calculation. Any REACH SVHC substances from this cut-off are excluded. In addition, the energy required for the manufacturing stage is added. It also included the waste and the air emissions produced during this stage. As stated in the PCR, since the distribution phase (A4) and the construction stage (A5) have an impact of <20% compared to the A1-A3 for the GWP, they are not reported. The production of production equipment and means of transport, as well as the machinery, equipment, and premises (production goods) needed for production and in production, are excluded from the scope of the assessment, as are the commuting of workers.

## 19. Production process

The wooden frames and casings are processed from pine timber, which undergoes surface treatment on-site. Metal hardware is installed to the casings and frames, assembled, gasketed, and glazed. Aluminum profiles are already treated and, thus, on-site assembled for the window. Then, the door product is packed and stacked on pallets, covered with plastic wrap, and ready for shipping. The flow diagram of the production process is reported below.




# ENVIRONMENTAL IMPACT RESULTS

## 20. Environmental impacts. Expressed per declared unit

The results of the impact assessment are relative. They do not predict the effects on the weighted values of the categories, the exceedance limits, safety margins, and risks. The unit is expressed per functional or declared unit (e.g., kg/kg).

| Indicators | Unit | A1-A3 | C1 | C2 | C3 | C4 | D |
|---|---|---|---|---|---|---|---|
| Global Warming Potential total (GWP-total) | kg CO2 eq. | 9.91E+01 | 0.00E+00 | 3.79E-01 | 2.58E+01 | 6.28E-02 | -1.22E+01 |
| Global Warming Potential fossil fuels (GWP-fossil) | kg CO2 eq. | 1.18E+02 | 0.00E+00 | 3.79E-01 | 5.80E+00 | 6.28E-02 | -1.20E+01 |
| Global Warming Potential biogenic (GWP- biogenic) | kg CO2 eq. | -2.00E+01 | 0.00E+00 | 0.00E+00 | 2.00E+01 | 0.00E+00 | 0.00E+00 |
| Global Warming Potential Land Use and Land Use Change (GWP-luluc) | kg CO2 eq. | 1.30E+00 | 0.00E+00 | 9.30E-06 | 6.87E-04 | 1.39E-06 | -2.26E-01 |
| Depletion potential of the stratospheric ozone layer (ODP) | kg CFC 11 eq. | 2.04E-06 | 0.00E+00 | 7.73E-09 | 2.70E-08 | 4.96E-10 | -2.40E-07 |
| Acidification potential, Accumulated Exceedance (AP) | mol $H^+$ eq. | 8.46E-01 | 0.00E+00 | 9.44E-04 | 5.20E-03 | 1.64E-04 | -6.55E-02 |
| Eutrophication potential, fraction of nutrients reaching freshwater end compartment (EP-freshwater) | kg P eq. | 3.36E-02 | 0.00E+00 | 2.73E-06 | 7.10E-04 | 9.03E-05 | -4.63E-03 |
| Eutrophication potential, fraction of nutrients reaching marine end compartment (EP-marine) | kg N eq. | 1.46E-01 | 0.00E+00 | 3.62E-04 | 1.92E-03 | 1.93E-03 | -1.01E-02 |
| Eutrophication potential, Accumulated Exceedance (EP-terrestrial) | mol N eq. | 1.53E+00 | 0.00E+00 | 3.96E-03 | 1.68E-02 | 5.50E-04 | -9.51E-02 |
| Formation potential of tropospheric ozone (POCP) | kg NMVOC eq. | 4.94E-01 | 0.00E+00 | 1.65E-03 | 4.53E-03 | 4.69E-04 | -4.34E-02 |
| Abiotic depletion potential for non-fossil resources (ADP-minerals&metals) | kg Sb eq. | 4.45E-04 | 0.00E+00 | 1.25E-08 | 1.21E-05 | 6.46E-09 | 2.30E-04 |
| Abiotic depletion for fossil resources potential (ADP-fossil) | MJ. Net calorific value | 1.48E+03 | 0.00E+00 | 5.00E+00 | 1.03E+01 | 3.58E-01 | -1.98E+02 |
| Water (user) deprivation potential, deprivation-weighted water consumption (WDP) | M3 world eq. deprived | 2.57E+01 | 0.00E+00 | 2.13E-03 | 8.12E-01 | -7.83E-03 | 1.80E+00 |

FENESTRA

## 21. Additional environmental impact indicators. Expressed per declared unit

| Indicator | Unit | A1-A3 | A1 | A2 | A3 | C1 | C2 | C3 | C4 | D |
|---|---|---|---|---|---|---|---|---|---|---|
| Potential incidence of disease due to PM emissions (PM) | Incidence of disease | 8.65E-06 | 8.21E-06 | 1.61E-07 | 2.80E-07 | 0.00E+00 | 2.49E-08 | 6.88E-08 | 2.34E-09 | -8.31E-07 |
| Potential Human exposure efficiency relative to U235 (IRP) | kBq U235 eq. | 1.18E+01 | 1.06E+01 | 1.43E-02 | 1.23E+00 | 0.00E+00 | 1.91E-03 | 1.42E-01 | 1.82E-03 | -3.34E+00 |
| Potential Comparative Toxic Unit for Ecosystems (ETP-fw) | CTUh | 1.03E+03 | 8.40E+02 | 1.18E+00 | 1.86E+02 | 0.00E+00 | 1.70E-01 | 2.11E+01 | 1.52E+00 | -2.73E+01 |
| Potential Comparative Toxic Unit for Humans (HTP-c) | CTUh | 8.85E-07 | 3.63E-07 | 2.41E-10 | 5.22E-07 | 0.00E+00 | 2.85E-11 | 5.19E-09 | 2.88E-11 | -2.87E-07 |
| Potential Comparative Toxic Unit for Humans (HTP-nc) | CTUh | 7.75E-07 | 7.19E-07 | 1.59E-08 | 3.99E-08 | 0.00E+00 | 2.50E-09 | 7.12E-08 | 2.57E-09 | -5.23E-08 |
| Potential soil quality index (SQP) | Dimensionless | 1.66E+03 | 1.54E+03 | 8.41E-02 | 1.21E+02 | 0.00E+00 | 1.12E-02 | 1.98E+00 | 7.86E-01 | -3.38E+02 |

## 22. Standard 7.2.4 Use of natural resources. Unit (expressed per declared unit).

| Use of natural resources | Unit | A1-A3 | A1 | A2 | A3 | C1 | C2 | C3 | C4 | D |
|---|---|---|---|---|---|---|---|---|---|---|
| Use of renewable primary energy excluding renewable primary energy resources used as raw materials | MJ | 4.65E+02 | 3.12E+02 | 1.30E-01 | 1.53E+02 | 0.00E+00 | 1.74E-02 | 2.27E+02 | 3.34E-02 | -1.15E+02 |
| Renewable primary energy resources used as raw materials | MJ | 2.26E+02 | 3.58E+02 | 0.00E+00 | -1.33E+02 | 0.00E+00 | 0.00E+00 | -2.26E+02 | 0.00E+00 | 0.00E+00 |
| Total use of renewable primary energy resources | MJ | 6.91E+02 | 6.71E+02 | 1.30E-01 | 2.03E+01 | 0.00E+00 | 1.74E-02 | 1.34E+00 | 3.34E-02 | -1.15E+02 |
| Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials | MJ | 1.34E+03 | 1.32E+03 | 1.30E-01 | 2.03E+01 | 0.00E+00 | 5.00E+00 | 1.03E+01 | 3.58E-01 | -1.98E+02 |
| Nonrenewable primary energy resources used as raw materials | 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 |
| Total use of non-renewable primary energy resources | MJ | 1.34E+03 | 1.32E+03 | 1.30E-01 | 2.03E+01 | 0.00E+00 | 5.00E+00 | 1.03E+01 | 3.58E-01 | -1.98E+02 |
| Use of 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 |
| Use of non-renewable secondary fuels | MJ | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Net use of freshwater | m3 | 1.42E+00 | 1.33E+00 | 9.61E-04 | 8.43E-02 | 0.00E+00 | 1.28E-04 | 1.04E-02 | -6.47E-03 | -3.88E-01 |
| Use of secondary material | kg | 2.34E-02 | 2.34E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.76E+01 |

## OTHER INDICATORS

### 23. Biogenic carbon content. Expressed per declared unit

| Biogenic carbon content | Unit | A1 |
|---|---|---|
| Biogenic carbon content in product | kg C | 5.77E+00 |
| Biogenic carbon content in packaging | kg C | 4.89E-01 |

### 24. End of life – Waste. Expressed per declared unit

| Waste categories | Unit | A1-A3 | C1 | C2 | C3 | C4 | D |
|---|---|---|---|---|---|---|---|
| Hazardous waste disposed | kg | 2.86E-01 | 0.00E+00 | 3.32E-05 | 4.18E-05 | 2.26E-06 | 2.87E-03 |
| Non-hazardous waste disposed | kg | 1.45E+01 | 0.00E+00 | 1.49E-04 | 2.05E-01 | 1.44E+00 | -1.45E-01 |
| Radioactive waste disposed | kg | 3.23E-03 | 0.00E+00 | 4.70E-07 | 3.72E-05 | 4.16E-07 | -8.31E-04 |

### 25. Other environmental indicators. Expressed per declared unit

| Other environmental indicators | Unit | A1-A3 | C1 | C2 | C3 | C4 | D |
|---|---|---|---|---|---|---|---|
| Components for reuse | kg | 6.16E-01 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Materials for recycling | kg | 5.51E+00 | 0.00E+00 | 0.00E+00 | 3.68E+01 | 0.00E+00 | 0.00E+00 |
| Materials for energy recovery | kg | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Exported energy (heat) | MJ | 4.47E-02 | 0.00E+00 | 0.00E+00 | 3.69E+01 | 0.00E+00 | 0.00E+00 |
| Exported energy (electricity) | MJ | 8.93E-02 | 0.00E+00 | 0.00E+00 | 1.85E+01 | 0.00E+00 | 0.00E+00 |

## SCENARIOS AND ADDITIONAL TECHNICAL INFORMATION

### 26. Energy in the manufacturing phase

| Parameter | Quantity | Data quality |
|---|---|---|
| A3 - Electricity information and $CO_2$ emission kg $CO_2$ eq. /kWh | 6.25E-01 | Electricity emissions have been calculated using the residual energy mix for Estonia on Ecoinvent 3.10 |

### 27. End-of-life process description

The end-of-life scenarios apply to the Baltic area of Estonia and Finland. The countries where the One Leaf Door is distributed and considering the share of the sales: Estonia 33% and Finland 67%. For the incineration process, it is plausible to assume an efficiency of >98% (EPA., 2022).

| EoL information | EoL process/activity | % of DU (expressed in mass) in each EoL process |
|---|---|---|
| Collection process specified by type | Collected separately | 100% |
| | Collected with mixed construction waste | 0% |
| Recovery system specified by material (wood) (Estonia) | Recycled | 3.15% |
| | Residual incineration | 3.56% |
| | Residual landfill | 2.04% |
| Recovery system specified by material (wood) (Finland) | Recycled | 0.89% |
| | Residual incineration | 16.03% |
| | Residual landfill | 0.87% |
| Recovery system specified by material (Aluminum) (Estonia) | Recycled | 2.5% |
| | Residual incineration | 0% |
| | Residual landfill | 0% |
| Recovery system specified by material (Aluminum) (Finland) | Recycled | 3.72% |
| | Residual incineration | 0.64% |
| | Residual landfill | 0.01% |
| Recovery system specified by material (Glass) (Estonia) | Recycled | 2.14% |
| | Residual incineration | 0% |

| | | |
|---|---|---|
| | Residual landfill | 0% |
| Recovery system specified by material (Glass) (Finland) | Recycled | 41.81% |
| | Residual incineration | 1.10% |
| | Residual landfill | 0.02% |
| Recovery system specified by material (Steel) (Estonia) | Recycled | 0.94% |
| | Residual incineration | 0.% |
| | Residual landfill | 0% |
| Recovery system specified by material (Steel) (Finland) | Recycled | 1.63% |
| | Residual incineration | 0.28% |
| | Residual landfill | 0.00% |
| Recovery system specified by type | Tot for re-use | 0% |
| | Tot for recycling | 75% |
| | Tot for incineration | 22% |
| Disposal specified by type | Tot product or material for final deposition | 3% |
| Assumptions for scenario development | km of waste transportation | 50 km |

*These values are based on the current estimation of end-of-life processes

The following materials are assumed to be substituted in Module D:

- PE from packaging = low density polyethylene
- Cardboard from packaging = cardboard
- Aluminum from packaging = aluminum primary ingot
- Wood from packaging = wooden pallet
- Wood from the product = cleft timber
- Aluminum from the product = aluminum primary ingot
- Glass from the product = fine aggregates (i.e., sand)
- Steel from the product = low alloyed steel

The exported electricity and heat from incineration are assumed to substitute in Module D:

- Electricity = Estonian electricity grid
- Heat = district or industrial heating with natural gas

## 28. Other technical information

Not specified for the industry average windows.

## 29. Additional information

**Emissions to soil**

There are no soil emissions during the One Leaf Door life stage.

**Emissions to water**

There are no water emissions during the One Leaf Door life stage.

**Emissions to indoor air**

There are no indoor air emissions during the One Leaf Door life stage.

## 30. LCA modeling software and data

SimaPro version 9.6 is used in LCA modeling. Primary data from 2022 is obtained from the manufacturer. The best available secondary data from Ecoinvent 3.10 databases are used in modeling. As a principle, secondary data with a maximum of 10 years of age was used in the modeling when available. The method of analysis used was EN 15804 + A2 (adapted) with EF 3.1 characterization factors.

## 31. Reference of the common information

ISO 14025:2011-10 Environmental labels and declarations. Type III environmental declarations. Principles and procedures
EN 15804:2012+A2:2019/AC:2021 – Sustainability of construction Works – Environmental product declarations – Core rules for the product category of construction products.
U.S. Environmental Protection Agency, 2022. Air Pollution Control Technology Fact Sheet. EPA-452/F-03-022.
Pinewood EPD. EPD HUB, HUB-0100.
RTS EPD, general rules (29 January 2020).
The Building Information Foundation RTS (PT 18 RTS EPD Product Category Rules). Rakennustietosäätiö RTS sr (RTS EPD PCR menetelmäohje 15804:2019)

## 32. Product information (volunteer, verified information)

Fenestra AS respects the quality certificate ISO 9001:2015 of sales, installation, production processes, and CE marking.