ENVIRONMENTAL PRODUCT DECLARATION

as per *ISO 14025* and *EN 15804+A2*

Owner of the Declaration	ASSA ABLOY Entrance Systems AB
Publisher	Institut Bauen und Umwelt e.V. (IBU)
Programme holder	Institut Bauen und Umwelt e.V. (IBU)
Declaration number	EPD-ASA-20250004-IBA1-EN
Issue date	22.07.2025
Valid to	21.07.2030

ASSA ABLOY FD2350P CDM9 folding door

ASSA ABLOY Entrance Systems

Institut Bauen und Umwelt e.V.

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ASSA ABLOY

1. General Information

ASSA ABLOY Entrance Systems

Programme holder

IBU – Institut Bauen und Umwelt e.V.
Hegelplatz 1
10117 Berlin
Germany

Declaration number

EPD-ASA-20250004-IBA1-EN

This declaration is based on the product category rules:

Automatic doors, automatic gates, and revolving door systems, 01.08.2021
(PCR checked and approved by the SVR)

Issue date

22.07.2025

Valid to

21.07.2030

Dipl.-Ing. Hans Peters
(Chairman of Institut Bauen und Umwelt e.V.)

Florian Pronold
(Managing Director Institut Bauen und Umwelt e.V.)

ASSA ABLOY FD2350P CDM9 folding door

Owner of the declaration

ASSA ABLOY Entrance Systems AB
Lodjursgatan 10
SE-261 44 Landskrona
Sweden

Declared product / declared unit

This declaration represents 1 power operated industrial folding door, 4050 mm wide and 4000 mm high, consisting of 4 panels, 4 glass windows. Inside installation. Panels are filled with CFC-free polystyrene, panel thickness 57 mm and panel height 4000 mm. Windows are double-sided insulated hardened glass, rectangular, in plastic frame.

Scope:

This declaration and its LCA study are relevant to the ASSA ABLOY FD2350P CDM9 folding door. The production location is in Lidköping, Sweden, and components are sourced from international tier one suppliers.

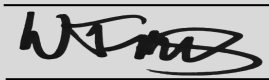
FD2350P CDM9 folding door sizes vary according to project requirements; a standard door 4050 mm wide and 4000 mm high with insulated panels filled with CFC-free polystyrene, panel thickness 57 mm, panel height 4000 mm, is used in this declaration.

The owner of the declaration shall be liable for the underlying information and evidence; the IBU shall not be liable with respect to manufacturer information, life cycle assessment data and evidences.

The EPD was created according to the specifications of EN 15804+A2. In the following, the standard will be simplified as *EN 15804*.

Verification

The standard EN 15804 serves as the core PCR
Independent verification of the declaration and data according to ISO 14025:2011
☐ internally ☒ externally



Dr.-Ing. Wolfram Trinius,
(Independent verifier)

ASSA ABLOY

2. Product

2.1 Product description/Product definition

Product name: ASSA ABLOY FD2350P CDM9
Product characteristic: Folding Door

The ASSA ABLOY FD2350P CDM9 folding door is designed to be strong, stable, and robust folding door. It delivers a unique mix of safety, reliability, ease of opening and optimal space saving. This smart sideways folding door is so easy to open, even after long periods. ASSA ABLOY FD2350P CDM9 folding door is the perfect choice for the unique needs of the farming, construction, industrial and automotive industries.

ASSA ABLOY FD2350P CDM9 folding door comes with a tight, well-sealed and high wind load resistance to take whatever the weather throws at it. This smart, economical folding door gives you the peace of mind and protection you need.

Built for premises where space around the door is limited, ASSA ABLOY FD2350P CDM9 folding door provides the perfect fit. It's available in a range of sizes, configurations, opening, locking, folding and color options. Manufacturing with durable materials including an aluminum frame, and with few moving parts.

The door has 5 primary parts:

1) Door leaf
2) Seals
3) Hardware
4) Passdoor (optional)
5) Windows (optional)

The ASSA ABLOY FD2350P CDM9 folding door has been designed to meet all operational and safety requirements in the European Directives and the standards issued by the European Standardization Committee, CEN.

Harmonised European standards, which have been applied:
For the placing of the product on the market in the EU/EFTA (with the exception of Switzerland) the Regulation (EU) No. 305/2011/ (CPR) and the following other harmonisation provisions apply:

Directive (EU) *2006/42/EC* Machinery Directive (MD) and Directive (EU) *2014/30/EU* Electromagnetic Compatibility Directive (EMCD) respectively) and *2011/65/EU* on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS), Directive *2012/19/EU* Waste Electrical and Electronic Equipment (WEEE Directive) respectively apply.

The product needs a Declaration of Performance in accordance with the CPR taking into consideration: *EN 13241+A2:2016* Industrial, commercial, garage doors and gates - Product standard, performance characteristics, and the CE-marking. The CE-marking for the product takes into account the Declaration of Performance in accordance with the CPR and the proof of conformity with the following harmonised norms based on the other harmonisation provisions.

EN 12428:2013
EN 12453:2017+A1:2022
EN 12604:2017+A1:2020
EN 13241+A2:2016
EN 60335-1: 2012+A11:2014+A13:2017+A14:2019+A15:2021+A1:2019+A2:2019
EN 60335-2-103: 2015

For thermal insulation, the standard *EN 12428:2013-04* applies.

The folding door has not performed tests regarding fire resistance or sound insulation. For the application and use the respective national provisions apply.

2.2 Application

The ASSA ABLOY FD2350P CDM9 folding door is suitable for all types of buildings, with regards to both function and appearance. It has a modern, clean design and its high flexibility makes it possible to install this door in almost every type of building allowing free space around the door.

2.3 Technical Data

Technical properties of the declared FD2350P CDM9 folding door:

- Height[1]: 4000 mm
- Width[1]: 4050 mm
- Panel thickness: 57 mm
- Panel material: CFC-free polystyrene with sheet metal inner and outer skins
- Resistance to wind load acc. to EN 12424: Class 5**
- Thermal transmittance acc. to EN 12428: 1,23 $W/M^2.k$***
- Resistance to water penetration acc. to EN 12426: Class 3****
- Air permeability acc. to EN 12426: Class 5****
- Power "on-mode": 500W
- Power "standby mode": 15W

[1] Other sizes available, maximum height: 6000 mm and maximum width: 5000 mm

***DLW[2] 5000 mm *DLH[3] 5000 mm*
****Door configuration 4000 mm * 4000 mm*
*****DLW[2] 3500 mm * DLH[3] 3100 mm*

[2]Daylight Width
[3]Daylight Height

Constructional data

Name	Value	Unit
Heat transfer coefficient glass acc. to EN 674 / EN 675	1.1	$W/(m^2K)$
Heat transfer coefficient of the entire door or gate system	1.41	$W/(m^2K)$
Burglar protection class acc. to EN 1627	Class 1	-
Joint permeability coefficient acc. to EN 12426	Class 5	-
Water tightness acc. to EN 12425	Class 3	-
Resistance to wind load acc. to EN 12424	Class 5	-

Performance data of the product in accordance with the declaration of performance with respect to its essential characteristics according to *EN 13241:2003+A2:2016*.

2.4 Delivery status

ASSA ABLOY FD2350P CDM9 folding door unit with door size: width 4050 mm and height 4000 mm, is delivered ready for installation.

2.5 Base materials/Ancillary materials

The average composition for declared FD2350P CDM9 folding door, is as following:

Name	Value	Unit
Aluminium	5.8	%
Electronic	0.7	%
Electro_mechanics	0.3	%
Glass	8.4	%
Plastics	14.9	%
Steel	69.7	%
Zinc	0.2	%
TOTAL	100.0	%

**Percentage in mass*

2.6 Manufacture

The primary manufacturing processes are made by Tier 1 suppliers. The components have origin in processes such as stamped steel, turning and steel casting. The final manufacturing processes for folding door units occur in Lidköping, Sweden.

Offcuts and scraps during the manufacturing process are directed to a recycling unit. Waste is sent for disposal.
Waste codes according to European Waste Catalogue and Hazardous Waste List - Valid from 1 July 2015.

EWC 12 01 01 Ferrous metal filings and turnings
EWC 12 01 03 Non-ferrous metal filings and turnings
EWC 17 02 03 Plastic
EWC 17 04 01 Copper, bronze, brass
EWC 17 04 02 Aluminum
EWC 17 04 05 Iron and steel
EWC 17 04 11 Cables with the exception of those outlined in *EWC 17 04 10*
EWC 20 01 39 Polystyrene foam

2.7 Environment and health during manufacturing

ASSA ABLOY is committed to producing and distributing door opening solutions with minimal environmental impact, where health & safety are the primary focus for all employees and associates.

- Environmental operations, GHG (Greenhouse Gas), energy, water, waste, Volatile organic compounds (VOC), surface treatment and H&S are routinely monitored. Inspections, audits, and reviews are conducted periodically to ensure that applicable standards are met and to evaluate the effectiveness of the environmental management program.
- The Code of Conduct covers human rights, labor practices and decent work. Management of ASSA ABLOY is aware of their environmental roles and responsibilities, providing appropriate training, supporting accountability and recognising outstanding performance.
- Any waste metals during machining are separated and recycled. Waste water from water-based painting processes is delivered to waste treatment plant.

2.8 Product processing/Installation

The folding door components are supplied ready for installation. The panels, tracks and hardware are assembled and installed on-site. The components are assembled using simple tools including drills and hand tools. The installation is performed by skilled installation technicians.

2.9 Packaging

The ASSA ABLOY FD2350P CDM9 folding door is placed horizontally on wooden pallets and banded to pallet for shipment. Minimum of 1 and maximum 10 doors per pallet.

Material Value (%)
Cardboard/paper 0.7
Wood 98.4
Plastics 0.9
TOTAL 100.0%

All materials incurred during installation are dealt with at the construction site.

Waste codes according to European Waste Catalogue and Hazardous Waste List - Valid from 1 July 2015.

EWC 15 01 01 Paper and cardboard packaging
EWC 15 01 02 Plastic packaging
*EWC 15 01 03 W*ooden packaging

2.10 Condition of use

Regular inspection is recommended. If serious damage is found, contact the ASSA ABLOY service department.

Monthly examination:
Check the screw attachments and nuts between door leaf, hinges, tracks, bearing brackets C-channels and installation frames. Make sure that all seals are clean, intact and undamaged. Clean them if necessary.

Examination every second month:
Clean the upper track if needed. Check the hinges and door leaves. Look for damage. Check the bearing brackets and their attachments. Look for damage.

Examination every six months:
Clean the inside and outside of the door with water and a mild detergent. This way, the durability of the door is extended. Look for damage on the surface. Surface damage must be improved according to the manufacturer's instructions.

2.11 Environment and health during use

There is no harmful emissive potential. No damage to health or impairment is expected under normal use corresponding to the intended use of the product.

2.12 Reference service life

The product has a reference service life of 100.000 cycles which complies to 10 years of standard daily use (with the recommended yearly service check). For this EPD, the lifetime of 10 years was considered.

The location and intended use of the steel door assembly, the environment to which it is exposed, and the cycling of the door assembly will determine the steel door life expectancy.

2.13 Extraordinary effects

Fire
The folding door is not fireproof and is not approved for use in fire/smoke areas. The product has not been tested for reaction to or resistance to fire/smoke.

Water
The product does not contain any substances that could be released and have an additional environmental impact on water in case of flood. However, in case of a flood, the electric operation of the device will be influenced negatively.

Mechanical destruction
No danger to the environment can be anticipated during mechanical destruction.

2.14 Re-use phase
The product is possible to re-use during the reference service life and can be moved from one docking station to another. The majority, by weight, of components is steel, which can be recycled. The plastic components can be used for energy recovery within a waste incineration process.

All recyclable materials are directed to a recycling unit where they are recycled (steel, electronics and electro-mechanics). On the other hand, the plastic components are sent to the waste incineration plant for their energy recovery.

Waste codes according to European Waste Catalogue and Hazardous Waste List - Valid from 15 July 2015:

EWC 17 04 05 Iron and steel
EWC 17 04 01 Copper, bronze, brass
EWC 17 04 02 Aluminium
EWC 17 02 03 Plastic
EWC 17 02 02 Glass
EWC 16 02 Wastes from electrical and electronic equipment
EWC 15 01 03 Wooden packaging

2.15 Disposal
The product can be mechanically disassembled to separate the different materials. The majority, of components are steel which will be recycled. The plastic components are used for energy recovery in an incineration plant. No disposal is foreseen for the product or for the corresponding packaging.

2.16 Further information
ASSA ABLOY Entrance Systems AB
Lodjursgatan 10
SE-261 44 Landskrona
Sweden

www.assaabloyentrance.com

3. LCA: Calculation rules

3.1 Declared Unit
The declaration refers to the functional unit of 1 piece of ASSA ABLOY FD2350P CDM9 Folding door as specified in Part B requirements on the *EPD IBU: PCR Automatic doors, automatic gates, and revolving door systems (door systems).*

Declared unit and mass reference

Name	Value	Unit
Mass (without packaging)	458.85	kg
Mass packaging (paper wood and plastics)	34.65	kg
Declared unit	1	pce
Mass reference	458.85	kg/pce

Other declared units are allowed if the conversion is shown transparently.

3.2 System boundary
Type of the EPD: cradle to gate - with options. The following life cycle stages were considered:
Production stage:

- A1 – Raw material extraction and processing
- A2 – Transport to the manufacturer and
- A3 – Manufacturing

Construction stage:

- A4 - Transport from the gate to the site
- A5 – Packaging waste processing

Use stage related to the operation of the building includes:

- B6 – Operational energy use

End-of-life stage:

- C1 - De-construction/demolition
- C2 – Transport to waste processing,
- C3 – Waste processing for recycling and
- C4 – Disposal (landfill, waste for incineration).

This includes provision of all materials, products and energy, packaging processing and its transport, as well as waste processing up to the end-of-waste state or disposal of final residues.

- Benefits and loads beyond the system boundaries: D – Declaration of all benefits and loads.

3.3 Estimates and assumptions
Transportation: Data on the mode of transport and distances, as reported by suppliers were used for those materials and parts contributing more than 2% of the total product mass.

Use stage: For the use phase, it is assumed that the folding door is used in the European Union, thus a European electricity grid mix is considered within this stage. According to the most representative scenario, the operating hours of the product are accounted for 7.2 hours in on mode and 16.8 hours in stand-by per day (220 days per year in use, 10 years lifetime); the power consumption throughout the whole life cycle is 8.47 MWh.

EoL: In the End-of-Life stage, for all the materials from the product which can be recycled (steel, aluminum, electronic parts, electro-mechanics, copper, stainless steel and brass), a recycling scenario with 100 % collection rate was assumed. The plastic components are sent for energy recovery within a waste incineration process.

EoL is assumed to happen within EU-28. Furthermore, a transport distance by truck of 100 km has been assumed in the model.

3.4 Cut-off criteria
In the assessment, all available data from the production process are considered, i.e. all raw materials used, auxiliary materials (e.g. lubricants), and electric power consumption - including material and energy flows contributing less than 1% of mass or energy (if available). In case a specific flow contributing less than 1% in mass or energy is not available,

worst case assumption proxies are selected to represent the respective environmental impacts.

Impacts relating to the production of machines and facilities required during production are out of the scope of this assessment.

3.5 Background data

For life cycle modelling of the considered product, Sphera's Life Cycle for Expert (LCA FE) software is used. *Sphera Managed Lifecycle Content* (MLC) modelling database is used as the background database of the study.

3.6 Data quality

The requirements for data quality and background data correspond to the specifications of the *IBU PCR Part A*.
Sphera performed a variety of tests and checks during the entire project to ensure a high quality of the completed project. This obviously includes an extensive review of project-specific LCA models as well as the background data used.
The technological background of the collected data reflects the physical reality of the declared products.
The datasets are complete and conform to the system boundaries and the criteria for the exclusion of inputs and outputs.
All relevant background datasets are taken from the *Sphera MLC database*.

3.7 Period under review

The period under review is 2023 (12-month average).

3.8 Geographic Representativeness

Land or region, in which the declared product system is manufactured, used or handled at the end of the product´s lifespan: Europe

3.9 Allocation

Regarding incineration, the software model for the waste incineration plant (WIP) is adapted according to the material composition and heating value of the combusted material. In this EPD, the following specific life cycle inventories for the WIP are considered:

- Waste incineration of paper
- Waste incineration of Plastic
- Waste incineration of Wood

Regarding the recycling material of metals, the metal parts in the EoL are declared as end-of-waste status. Thus, these materials are considered in module D. Specific information on allocation within the background data is given in the MLC dataset documentation.

3.10 Comparability

Basically, a comparison or an evaluation of EPD data is only possible if all the data sets to be compared were created according to *EN 15804* and the building context, respectively the product-specific characteristics of performance, are taken into account. Sphera's Managed LCA Content CUP 2020.1 serves as background database for the calculation.

4. LCA: Scenarios and additional technical information

Characteristic product properties of biogenic carbon

The following technical information is a basis for the declared modules or can be used for developing specific scenarios in the context of a building assessment if modules are not declared (MND).

Information on describing the biogenic carbon content at factory gate

Name	Value	Unit
Biogenic carbon content in product	-	kg C
Biogenic carbon content in accompanying packaging	10.53	kg C

Transport to the building site (A4)

Name	Value	Unit
Kg of fuel diesel with maximum load (27t payload)	27.51	kg/100 km
Transport distance truck (primary target market is EU 28)	500.00	km
Capacity utilization (incl. empty runs) of truck	61.00	%

Installation into the building (A5)

Name	Value	Unit
Output substances following waste treatment on site (paper/cardboard packaging)	0.24	kg
Output substances following waste treatment on site (wood packaging)	34.10	kg
Output substances following waste treatment on site (plastic packaging)	0.31	kg

Reference service life

Name	Value	Unit
Reference service life	10	years

Operational energy use (B6)

Name	Value	Unit
Electricity consumption per RSL (10 years, 220 days per year)	8.47	MWh
Hours per day in on mode	7.2	h
Hours per day in stand-by mode	16.8	h
Power consumption – on mode	500	W
Power consumption – stand-by mode	15	W

For the remaining days (145 days) the power is being switched off.
*Total energy consumed during the whole product life was calculated using following formula:
*(W_active_mode*h_active_mode+W_idle_mode*h_idle_mode +W_stand_by_mode*h_stand_by_mode)*Life_ span*days_year*0.001*

Where:

- W_active_mode - Energy consumption in active mode in W
- h_active_mode - Operation time in active mode in hours
- W_idle_mode - Energy consumption in idle mode in W
- h_idle_mode - Operation time in idle mode in hours
- W_stand_by_mode - Energy consumption in stand-by mode in W
- h_stand_by_mode - Operation time in stand-by mode in hours
- Life_span - Reference service life of product
- days_year - Operation days per year
- 0.001 - Conversion factor from Wh to kWh.

End of life (C1-C4)

Name	Value	Unit
Transport to EOL (C2)	100	km
Collected separately aluminum, steel, zinc, lead, electronics, electro-mechanics, brass , plastics and glass	420.39	kg
Incineration of plastic parts	68.5	kg
Recycling aluminum, steel, zinc, lead, electronics, electro-mechanics and brass	351.93	kg
Landfill	38.43	kg

Reuse, recovery and/or recycling potentials (D), relevant scenario information

Name	Value	Unit
Collected separately waste type (including packaging)	455.1	kg
Recycling aluminum	5.8	%
Recycling brass	0.07	%
Recycling zinc	0.17	%
Recycling steel	70.27	%
Recycling lead	0.01	%
Recycling electronic	0.71	%
Recycling electro mechanics	0.33	%
Incineration of plastic parts	15.05	%
Incineration of packaging (paper, wood and plastic) (from A5)	7.62	%

5. LCA: Results

Results shown are calculated according to *EN 15804+A2.*

DESCRIPTION OF THE SYSTEM BOUNDARY (X = INCLUDED IN LCA; MND = MODULE OR INDICATOR NOT DECLARED; MNR = MODULE NOT RELEVANT)

Product stage			Construction process stage		Use stage							End of life stage				Benefits and loads beyond the system boundaries
Raw material supply	Transport	Manufacturing	Transport from the gate to the site	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction 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
X	X	X	X	X	MND	MND	MNR	MNR	MNR	X	MND	X	X	X	X	X

RESULTS OF THE LCA - ENVIRONMENTAL IMPACT according to EN 15804+A2: 1 piece ASSA ABLOY FD2350P CDM9 folding door

Parameter	Unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
GWP-total	kg CO_2 eq	9.66E+02	8.11E+00	3.4E-01	3.43E+03	0	8.11E+00	9.58E+01	4.03E-01	-5.23E+02
GWP-fossil	kg CO_2 eq	1.03E+03	7.31E+00	8.52E-03	3.41E+03	0	7.31E+00	3.29E+01	4.37E-01	-5.23E+02
GWP-biogenic	kg CO_2 eq	-6.24E+01	7.41E-01	3.32E-01	1.14E+01	0	7.41E-01	6.29E+01	-3.46E-02	-4.93E-01
GWP-luluc	kg CO_2 eq	8.11E-01	6.01E-02	5.6E-06	4.94E+00	0	6.01E-02	-3.04E-02	1.26E-03	-1.33E-01
ODP	kg CFC11 eq	7.61E-09	1.42E-15	6.13E-17	7.5E-11	0	1.42E-15	-3.65E-14	1.62E-15	5.43E-11
AP	mol H^+ eq	3.55E+00	3.23E-02	9.53E-05	7.53E+00	0	3.23E-02	-4.66E-01	3.13E-03	-1.85E+00
EP-freshwater	kg P eq	1.9E-03	2.28E-05	1.2E-08	9.11E-03	0	2.28E-05	-6.03E-05	7.5E-07	-2.4E-04
EP-marine	kg N eq	7.04E-01	8.63E-03	3.44E-05	1.67E+00	0	8.63E-03	-7.07E-02	8.07E-04	-2.89E-01
EP-terrestrial	mol N eq	7.6E+00	9.69E-02	4.29E-04	1.76E+01	0	9.69E-02	-7.28E-01	8.86E-03	-3.14E+00
POCP	kg NMVOC eq	2.27E+00	2.4E-02	9.12E-05	4.58E+00	0	2.4E-02	-2.23E-01	2.44E-03	-9.27E-01
ADPE	kg Sb eq	1.67E+04	1.07E+02	1.07E-01	6E+04	0	1.07E+02	-1.35E+03	5.73E+00	-5.8E+03
ADPF	MJ	3.05E-02	6.17E-07	9.69E-10	9.87E-04	0	6.17E-07	-1.49E-02	3.92E-08	-5.7E-03
WDP	m^3 world eq deprived	7.32E+01	7.36E-02	4.22E-02	7.44E+02	0	7.36E-02	1.41E+01	4.58E-02	-4.05E+01

GWP = Global warming potential; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential of land and water; EP = Eutrophication potential; POCP = Formation potential of tropospheric ozone photochemical oxidants; ADPE = Abiotic depletion potential for non-fossil resources; ADPF = Abiotic depletion potential for fossil resources; WDP = Water (user) deprivation potential)

RESULTS OF THE LCA - INDICATORS TO DESCRIBE RESOURCE USE according to EN 15804+A2: 1 piece ASSA ABLOY FD2350P CDM9 folding door

Parameter	Unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
PERE	MJ	3.86E+03	5.76E+00	6.58E+02	2.66E+04	0	5.76E+00	-8.32E+01	7.5E-01	-1.43E+03
PERM	MJ	6.58E+02	0	-6.58E+02	0	0	0	0	0	0
PERT	MJ	4.52E+03	5.76E+00	1.95E-02	2.66E+04	0	5.76E+00	-8.32E+01	7.5E-01	-1.43E+03
PENRE	MJ	1.39E+04	1.07E+02	6.01E+00	6E+04	0	1.07E+02	1.44E+03	5.73E+00	-5.82E+03
PENRM	MJ	2.81E+03	0	-5.91E+00	0	0	0	-2.8E+03	0	0
PENRT	MJ	1.67E+04	1.07E+02	1.07E-01	6E+04	0	1.07E+02	-1.36E+03	5.73E+00	-5.82E+03
SM	kg	3.07E+02	0	0	0	0	0	0	0	0
RSF	MJ	0	0	0	0	0	0	0	0	0
NRSF	MJ	0	0	0	0	0	0	0	0	0
FW	m^3	6.73E+00	6.72E-03	9.93E-04	3.07E+01	0	6.72E-03	1.65E-01	1.45E-03	-3.82E+00

PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy resources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water

RESULTS OF THE LCA – WASTE CATEGORIES AND OUTPUT FLOWS according to EN 15804+A2: 1 piece ASSA ABLOY FD2350P CDM9 folding door

Parameter	Unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
HWD	kg	1.02E-04	4.6E-06	1.58E-10	2.48E-05	0	4.6E-06	-7.78E-07	8.74E-08	-3.06E-06
NHWD	kg	4.2E+01	1.65E-02	1.07E-02	4.26E+01	0	1.65E-02	1.6E+01	2.88E+01	-6.54E+01
RWD	kg	1.25E+00	1.92E-04	5.65E-06	9.1E+00	0	1.92E-04	-4.08E-02	6.51E-05	-2.5E-01
CRU	kg	0	0	0	0	0	0	0	0	0
MFR	kg	1.36E+01	0	2.4E-01	0	0	0	4.1E+02	0	0
MER	kg	0	0	0	0	0	0	0	0	0
EEE	MJ	0	0	5.15E-01	0	0	0	5.37E+02	0	0

EET	MJ	0	0	9.34E-01	0	0	0	9.02E+02	0	0

HWD = Hazardous waste disposed; NHWD = Non-hazardous waste disposed; RWD = Radioactive waste disposed; CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported electrical energy; EET = Exported thermal energy

RESULTS OF THE LCA – additional impact categories according to EN 15804+A2-optional:
1 piece ASSA ABLOY FD2350P CDM9 folding door

Parameter	Unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
PM	Disease incidence	4.13E-05	4.55E-07	5.28E-10	6.32E-05	0	4.55E-07	-5.12E-06	3.88E-08	-2.07E-05
IR	kBq U235 eq	1.46E+02	2.83E-02	8.74E-04	1.49E+03	0	2.83E-02	-7.32E+00	6.69E-03	-5.02E+01
ETP-fw	CTUe	7.63E+03	7.95E+01	5.1E-02	2.57E+04	0	7.95E+01	-2.59E+02	3.27E+00	-1.64E+03
HTP-c	CTUh	8.03E-07	1.63E-09	2.7E-12	7.09E-07	0	1.63E-09	-1.31E-07	4.85E-10	-4.7E-07
HTP-nc	CTUh	2.11E-05	8.28E-08	1.17E-10	2.61E-05	0	8.28E-08	-2.26E-07	5.35E-08	-1.6E-06
SQP	SQP	1.05E+04	3.48E+01	2.85E-02	1.91E+04	0	3.48E+01	-6.38E+01	1.19E+00	-1.88E+02

PM = Potential incidence of disease due to PM emissions; IR = Potential Human exposure efficiency relative to U235; ETP-fw = Potential comparative Toxic Unit for ecosystems; HTP-c = Potential comparative Toxic Unit for humans (cancerogenic); HTP-nc = Potential comparative Toxic Unit for humans (not cancerogenic); SQP = Potential soil quality index

Disclaimer 1 – for the indicator “Potential Human exposure efficiency relative to U235”. This impact category deals mainly with the eventual impact of low-dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure or radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, radon and from some construction materials is also not measured by this indicator.

Disclaimer 2 – for the indicators “abiotic depletion potential for non-fossil resources”, “abiotic depletion potential for fossil resources”, “water (user) deprivation potential, deprivation-weighted water consumption”, “potential comparative toxic unit for ecosystems”, “potential comparative toxic unit for humans – cancerogenic”, “Potential comparative toxic unit for humans - not cancerogenic”, “potential soil quality index”. The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high as there is limited experience with the indicator.

6. LCA: Interpretation

This chapter contains an interpretation of the Life Cycle Impact Assessment categories. Stated percentages in the whole interpretation are related to the overall life cycle, excluding credits (module D).

The production stage (modules A1-A3) contributes between 17% and 34% to the overall results for all core environmental impact assessment categories, except for the global warming potential – biogenic (GWP-biogenic). This result is mainly related to the extraction of renewable raw materials (A1).

Within the production stage, the main contribution to all the impact categories is the production of steel and aluminum mainly due to the energy consumption of these processes. These two materials account for approx. 70% of the overall mass of the product, therefore, the impacts are in line with the mass composition of the product. The environmental impacts for transport (A2) have a negligible impact within this stage.

To reflect the use stage (module B6), the energy consumption was included, and it has a contribution for all core impact assessment categories considered - between 68% and 86%, with the exception of ODP (1%) and ADPE (6%). This is a result of 7.2 hours of operation in on mode and 16.8 hours in stand-by mode per day and per 220 days in a year.

In the end-of-life stage, there are loads and benefits (module D, negative values) considered. The benefits are considered beyond the system boundaries and are declared for the recycling potential of the metals and for the credits from the incineration process (energy substitution).

7. Requisite evidence

Not applicable in this EPD.

8. References

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European directive on machinery, and amending Directive 95/16/EC (recast)

2011/65/EC
European directive on the restriction of the use of certain hazardous substances in electrical and electronical equipment, and its amendment directives including 2015/863/EC (RoHS directive)

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European directive on waste electrical and electronic equipment (WEEE)

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European directive on the harmonization of the laws of the Member States relating to electromagnetic compatibility (recast)

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