ENVIRONMENTAL PRODUCT DECLARATION

as per ISO 14025 and EN 15804

Owner of the Declaration	**ASSA ABLOY Entrance Systems AB**
Programme holder	Institut Bauen und Umwelt e.V. (IBU)
Publisher	Institut Bauen und Umwelt e.V. (IBU)
Declaration number	EPD-ASA-20190124-IBA1-EN
Issue date	06.08.2019
Valid to	05.08.2024

ASSA ABLOY FD2250P manual folding door

ASSA ABLOY Entrance Systems AB

Institut Bauen und Umwelt e.V.

www.bau-umwelt.com / https://epd-online.com

ASSA ABLOY

1. General Information

ASSA ABLOY Entrance Systems AB

Programme holder
IBU - Institut Bauen und Umwelt e.V.
Panoramastr. 1
10178 Berlin
Germany

Declaration number
EPD-ASA-20190124-IBA1-EN

This Declaration is based on the Product Category Rules:
IBU: PCR Windows and doors Version 1.7 (01.2019)
(PCR tested and approved by the independent expert committee)

Issue date
06.08.2019

Valid to
05.08.2019

Hans Peters
(President of Institut Bauen und Umwelt e.V.)

Dr. Alexander Röder
(Managing Director of IBU)

ASSA ABLOY FD2250P manual 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 manually operated industrial folding door, 4050 mm width and 4000 mm height, consisting of 4 panels and 4 glass windows. 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 Sectional Door - ASSA ABLOY FD2250P manual folding door.

The production location is Lidköping, Sweden and components are sourced from international tier one suppliers. FD2250P manual folding door size varys according to project requirements; a standard door 4050 mm width and 4000 mm height 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.

Verification

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

Dr. Wolfram Trinius
(Independent tester appointed by SVA)

2. Product

2.1 Product description

Product name: ASSA ABLOY FD2250P manual folding door
Product characteristic: Folding door panel

The ASSA ABLOY FD2250P manual folding door is a well-insulated folding door especially developed for demanding industrial environments. High flexibility makes it possible to install this door in almost every type of building. The door slides (folds) to the left or right or in both directions if it is in two parts, leaving the door opening completely free, allowing free space around the door opening. The door can be installed on either the inside or the outside of the exterior wall. The door is made of insulated panels. The panels are designed without thermal bridge to provide minimal thermal transmittance, which reduces energy cost. The surface is made of rilled steel sheet. There are top, bottom and side seals and seals between door sections. The standard track system is made of galvanized steel.

The door has 5 primary parts:
1) Door leaf
2) Seals
3) Hardware
4) Passdoor (option)
5) Windows (option)

The ASSA ABLOY FD2250P manual 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).

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:

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 13241+A2:2016/

For thermal insulation, the standard /EN12428:2013-04/ 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 FD2250P manual folding door is suitable for all types of buildings, with regard 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

The table presents the technical properties of the FD2250P manual folding door:

Technical data

Name	Value	Unit
Maximun height	6000	mm
Maximun width	4800	mm
Panel thickness	57	mm
Panel material	CFC -free polystyrene with sheet metal inner and outer skins	
Resistance to wind load acc.to /EN12424:2000-11/	Class 5 **	
Thermal transmittance acc.to /EN 12428: 2013-04/	1,23 ***	$W/m^2.k$
Resistance to water penetration acc. to /EN 12426:2000-11/	Class 3 ****	
Air permeability acc. to /EN 12426:2000-11/	Class 5 ****	

**DLW 5000 mm *DLH 5000 mm
***Door configuration 4000 mm * 4000 mm
****DLW 3500 mm * DLH 3100 mm

2.4 Delivery status

ASSA ABLOY FD2250P manual 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 FD2250P manual folding door, is as following:

Component	Percentage in mass (%)
Aluminium	1,123
Plastics	9,387
Steel	87,766
Glass	1,651
Paper	0,073
Total	**100**

2.6 Manufacture

The primary manufacturing processes are made by Tier 1 suppliers (mainly located in Sweden). 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.

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 is the primary focus for all employees and associates.
• Environmental operations, GHG, energy, water, waste, 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.
• 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 recognizing 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 FD2250P manual folding door is placed horizontally on wooden pallets and banded to pallet for shipment. Minimum of 1 and max 10 doors per pallet.

Material	Value (%)
Wood	99,99
Others (plastic wrapping and banding in polyester)	**0,01**
Total	**100.0**

All materials incurred during installation are directed to a recycling unit.

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 20 years of standard daily use (with the recommended yearly service check). For this EPD the lifetime of 20 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. In case of fire, the product does not contribute to spread the fire and there is no harmful potential for environment and health.

Water

The product does not contain any substances that could be released and have an additional environmental impact on water in case of flood.

Mechanical destruction

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

2.14 Re-use stage

It is possible to re-use the product during the reference service life and it can be moved from one application to another. The majority, by weight, of components is steel which can be recycled.

2.15 Disposal

The product can be mechanically dissembled to separate the different materials. The majority, by weight, of components is steel, which can be recycled. The plastic components can be used for energy recovery in an incineration process. The door can either be sent back to ASSA ABLOY Entrance Systems AB for recycling or to a professional recycling service provider. No disposal is foreseen for the product nor for the corresponding packaging.

Waste codes according to European Waste Catalogue and Hazardous Waste List - Valid from 1 January 2002.

/EWC/ 17 04 05 iron and steel
/EWC/ 17 04 02 aluminium
/EWC/ 17 02 03 plastic
/EWC/ 17 02 02 glass
/EWC/ 20 01 01 paper and cardboard
/EWC/ 15 01 03 wooden packaging

2.16 Further information

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SE-261 44 Landskrona
Sweden
info.aaes@assaabloy.com
www.assaabloy.com

3. LCA: Calculation rules

3.1 Declared Unit

The declaration refers to 1 manual operated industrial folding door as specified in Part B requirements on the EPD for PCR Automatic doors, automatic gates, and revolving door systems (door systems).
A door of 4050 mm width and 4000 mm height, consisting of 4 panels and 4 glass windows has been considered in this declaration.

Declared unit

Name	Value	Unit
Mass (without packaging)	387.595	kg
Mass packaging (wood y)	5,848	kg
Conversion factor to 1 kg	0.0025800	-
Declared unit for folding door systems (dimensions acc. to this PCR)	1	piece

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 (no power needed, therefore this stage is not relevant for this EPD)

C1-C4 End-of-life stage (EoL):

- 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.

Module D:

- Declaration of all benefits and loads

3.3 Estimates and assumptions

Transportation: Data on mode of transport and distances, as reported by suppliers were used for those materials and parts contributing more than 2 % of total product mass. In case of unknown transport distances for parts and materials, contributing less than 2 % to the total product mass, transport by road over an average distance of 500 km was assumed.

Use stage:
For the use stage, it is assumed that the folding door is used in the European Union.

EoL:
In the End-of-Life stage, for all the materials which can be recycled, a recycling scenario with 100% collection rate was assumed. 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 modeling of the considered product, the GaBi 8 Software System for Life Cycle Engineering, developed by thinkstep AG, is used /GaBi 8 2019/. The GaBi-database contains consistent and documented datasets which are documented in the online GaBi-documentation /GaBi database SP25:2016/. To ensure comparability of results in the LCA, the basic data of GaBi database were used for energy, transportation and auxiliary materials.

3.6 Data quality

The requirements for data quality and background data correspond to the specifications of the /IBU PCR Part A/.
Thinkstep performed a variety of tests and checks during the entire project to ensure 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 /GaBi database SP25:2016/ software database.

3.7 Period under review

The period under review is 2015/16 (12-month average).

3.8 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 for:

- Waste incineration of paper

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 GaBi dataset documentation.

3.9 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. GaBi 8 serves as background database for the calculation.

4. LCA: Scenarios and additional technical information

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).

Transport to the building site (A4)

Name	Value	Unit
Truck transport		
Litres of fuel diesel with maximum load (27 t payload)	39,400	l/100km
Transport distance truck	1500	km
Capacity utilization (incl. empty runs) of truck	85	%

Installation into the building (A5)

Name	Value	Unit
Output substances following waste treatment on site (Wood packaging)	5,848	kg

Reference service life

Name	Value	Unit
Reference service life	20	a

Operational energy use (B6)

Name	Value	Unit
Electricity consumption per RSL (20 years, 365 days per year)	0	kWh
Hours per day in on mode	0	h
Hours per day in stand-by mode	0	h
Hours per day in idle mode	0	h
Power consumption – on mode	0	W
Power consumption – stand-by mode	0	W
Power consumption – idle mode	0	W

End of life (C1-C4)

Name	Value	Unit
Collected separately aluminum, steel, plastics, paper (excluding packaging)	381,171	kg
Incineration of plastic parts	36,379	kg
Recycling aluminium and steel	344,507	kg
Incineration of paper	0,284	kg
Transport distance	100	km

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

Name	Value	Unit
Collected separately waste type (including packaging)	387,019	kg
Recycling Aluminium	1,124	%
Recycling Steel	87,891	%
Incineration of Plastic parts	9,400	%
Incineration of Paper	0,073	%
Incineration of Wood (packaging)	1,511	%

5. LCA: Results

Results shown below were calculated using CML 2000 – Apr. 2013 Methodology.

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

PRODUCT STAGE			CONSTRUCTION PROCESS STAGE		USE STAGE							END OF LIFE STAGE				BENEFITS AND LOADS BEYOND THE SYSTEM BOUNDARYS
Raw material supply	Transport	Manufacturing	Transport from the gate to the site	Assembly	Use	Maintenance	Repair	Replacement[1)]	Refurbishment[1)]	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	MND	MND	MND	X	MND	MND	X	X	X	X

RESULTS OF THE LCA - ENVIRONMENTAL IMPACT: One piece of ASSA ABLOY FD2250P manual folding door

Parameter	Parameter	Unit	A1 - A3	A4	A5	B6	C2	C3	C4	D
GWP	Global warming potential	[kg CO_2-Eq.]	7,34E+02	2,81E+01	1,18E+00	0,00E+00	1,84E+00	0,00E+00	9,09E+01	-3,41E+02
ODP	Depletion potential of the stratospheric ozone layer	[kg CFC11-Eq.]	3,22E-08	1,34E-10	4,93E-12	0,00E+00	8,83E-12	0,00E+00	2,74E-10	-3,59E-09
AP	Acidification potential of land and water	[kg SO_2-Eq.]	2,92E+00	1,28E-01	2,01E-04	0,00E+00	8,44E-03	0,00E+00	2,36E-02	-1,30E+00
EP	Eutrophication potential	[kg $(PO_4)^{3-}$-Eq.]	2,48E-01	2,93E-02	3,28E-05	0,00E+00	1,93E-03	0,00E+00	1,81E-03	-1,01E-01
POCP	Formation potential of tropospheric ozone photochemical oxidants	[kg Ethen Eq.]	3,27E-01	-4,14E-02	1,54E-05	0,00E+00	-2,72E-03	0,00E+00	1,16E-03	-1,72E-01
ADPE	Abiotic depletion potential for non-fossil resources	[kg Sb Eq.]	5,24E-02	1,06E-06	1,76E-08	0,00E+00	6,95E-08	0,00E+00	6,03E-06	-1,74E-05
ADPF	Abiotic depletion potential for fossil resources	[MJ]	1,02E+04	3,87E+02	2,84E-01	0,00E+00	2,54E+01	0,00E+00	3,93E+01	-3,55E+03

RESULTS OF THE LCA - RESOURCE USE: One piece of ASSA ABLOY FD2250P manual folding door

Parameter	Parameter	Unit	A1 - A3	A4	A5	B6	C2	C3	C4	D
PERE	Renewable primary energy as energy carrier	[MJ]	1,90E+03	-	-	-	-	-	-	-
PERM	Renewable primary energy resources as material utilization	[MJ]	0,00E+00	-	-	-	-	-	-	-
PERT	Total use of renewable primary energy resources	[MJ]	1,90E+03	1,53E+01	2,75E-02	0,00E+00	1,00E+00	0,00E+00	2,89E+00	-1,37E+02
PENRE	Non-renewable primary energy as energy carrier	[MJ]	1,23E+04	-	-	-	-	-	-	-
PENRM	Non-renewable primary energy as material utilization	[MJ]	0,00E+00	-	-	-	-	-	-	-
PENRT	Total use of non-renewable primary energy resources	[MJ]	1,23E+04	3,89E+02	3,36E-01	0,00E+00	2,55E+01	0,00E+00	4,36E+01	-3,61E+03
SM	Use of secondary material	[kg]	2,65E+02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
RSF	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
NRSF	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
FW	Use of net fresh water	[m^3]	5,73E+00	1,08E-02	3,19E-03	0,00E+00	7,07E-04	0,00E+00	2,19E-01	-5,95E-01

RESULTS OF THE LCA – OUTPUT FLOWS AND WASTE CATEGORIES: One piece of ASSA ABLOY FD2250P manual folding door

Parameter	Parameter	Unit	A1 - A3	A4	A5	B6	C2	C3	C4	D
HWD	Hazardous waste disposed	[kg]	1,06E+00	8,85E-04	2,34E-05	0,00E+00	5,81E-05	0,00E+00	3,02E-03	1,18E-01
NHWD	Non-hazardous waste disposed	[kg]	2,36E+01	4,89E-02	2,12E-02	0,00E+00	3,21E-03	0,00E+00	1,33E+01	-7,92E+00
RWD	Radioactive waste disposed	[kg]	8,35E-01	5,09E-04	2,04E-05	0,00E+00	3,34E-05	0,00E+00	1,72E-03	-2,72E-02
CRU	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
MFR	Materials for recycling	[kg]	0,00E+00	0,00E+00	4,80E-01	0,00E+00	0,00E+00	3,48E+02	0,00E+00	6,57E+00
MER	Materials for energy recovery	[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
EEE	Exported electrical energy	[MJ]	0,00E+00	0,00E+00	1,42E+00	0,00E+00	0,00E+00	0,00E+00	1,74E+02	1,02E+01
EET	Exported thermal energy	[MJ]	0,00E+00	0,00E+00	3,99E+00	0,00E+00	0,00E+00	0,00E+00	4,77E+02	2,86E+01

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 92 and 100% to the overall results for all the environmental impact assessment categories hereby considered.

Within the production stage, the main contribution for all the impact categories is the production of steel and aluminum mainly due to the energy consumption on these processes. These two materials accounts with approx. 89 % to the overall mass of the product, therefore, the impacts are in line with the mass composition of the product. The environmental impacts for the transport (A2) have a negligible impact within this stage.

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

Institut Bauen und Umwelt
Institut Bauen und Umwelt e.V., Berlin (pub.): Generation of Environmental Product Declarations (EPDs);

General principles
for the EPD range of Institut Bauen und Umwelt e.V. (IBU), 2013-04
www.bau-umwelt.de

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IBU PCR Part B
IBU PCR Part B: PCR Guidance-Texts for Building-Related Products and Services. From the range of Environmental Product Declarations of Institute Construction and Environment e.V. (IBU). Part B: Requirements on the EPD for
Windows and doors Version 1.7 (01.2019) www.ibu-epd.com

/EN 15804:2014-07/
EN 15804:2014-07: Sustainability of construction works — Environmental Product Declarations — Core rules for the product category of construction products

/GaBi 8 2019/
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/GaBi database SP25 2016/
GaBi 8 2016: Documentation of GaBi 8 (SP 25): Software-System and Database for Life Cycle Engineering. Copyright, TM. Stuttgart, thinkstep AG, Echterdingen, 1992-2019. http://documentation.gabi-software.com/

/ISO 14025:2015/
DIN EN ISO 14025:2011-10: Environmental labels and declarations — Type III environmental declarations — Principles and procedures

/EN 305/2011
Laying down harmonised conditions for the marketing of construction products

/EN 13241+A2:2016/
Industrial, commercial and garage doors and gates - Product standard. Products without fire resistance or smoke control characteristics

/EN 12424:2000-11/
Industrial, commercial and garage doors and gates - Resistance to wind load - Classification; German version EN 12424:2000

/EN 12426:2000-11/
Industrial, commercial and garage doors and gates - Air permeability - Classification; German version EN 12426:2000

/EN12428: 2013-04/
Industrial, commercial and garage doors - Thermal transmittance - Requirements for the calculation

/EWC/
European Waste Catalogue

9. Annex

Results shown below were calculated using TRACI Methodology.

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

PRODUCT STAGE			CONSTRUCTION PROCESS STAGE		USE STAGE							END OF LIFE STAGE				BENEFITS AND LOADS BEYOND THE SYSTEM BOUNDARYS
Raw material supply	Transport	Manufacturing	Transport from the gate to the site	Assembly	Use	Maintenance	Repair	Replacement[1)]	Refurbishment[1)]	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	MND	MND	MND	X	MND	MND	X	X	X	X

RESULTS OF THE LCA - ENVIRONMENTAL IMPACT: One piece of ASSA ABLOY FD2250P manual folding door

Parameter	Parameter	Unit	A1 - A3	A4	A5	B6	C2	C3	C4	D
GWP	Global warming potential	[kg CO_2-Eq.]	7,34E+02	2,81E+01	1,18E+00	0,00E+00	1,84E+00	0,00E+00	9,09E+01	-3,41E+02
ODP	Depletion potential of the stratospheric ozone layer	[kg CFC11-Eq.]	3,41E-08	1,43E-10	5,24E-12	0,00E+00	9,39E-12	0,00E+00	2,92E-10	-3,82E-09
AP	Acidification potential of land and water	[kg SO_2-Eq.]	2,96E+00	1,68E-01	2,36E-04	0,00E+00	1,10E-02	0,00E+00	2,76E-02	-1,30E+00
EP	Eutrophication potential	[kg N-eq.]	2,80E-01	1,19E-02	1,33E-05	0,00E+00	7,79E-04	0,00E+00	8,67E-04	-7,18E-02
Smog	Ground-level smog formation potential	[kg O_3-eq.]	4,11E+01	3,46E+00	4,97E-03	0,00E+00	2,27E-01	0,00E+00	2,22E-01	-1,81E+01
Resources	Resources – resources fossil	[MJ]	7,54E+02	5,57E+01	3,31E-02	0,00E+00	3,66E+00	0,00E+00	4,06E+00	-8,59E+01

RESULTS OF THE LCA - RESOURCE USE: One piece of ASSA ABLOY FD2250P manual folding door

Parameter	Parameter	Unit	A1 - A3	A4	A5	B6	C2	C3	C4	D
PERE	Renewable primary energy as energy carrier	[MJ]	1,90E+03	-	-	-	-	-	-	-
PERM	Renewable primary energy resources as material utilization	[MJ]	0,00E+00	-	-	-	-	-	-	-
PERT	Total use of renewable primary energy resources	[MJ]	1,90E+03	1,53E+01	2,75E-02	0,00E+00	1,00E+00	0,00E+00	2,89E+00	-1,37E+02
PENRE	Non-renewable primary energy as energy carrier	[MJ]	1,23E+04	-	-	-	-	-	-	-
PENRM	Non-renewable primary energy as material utilization	[MJ]	0,00E+00	-	-	-	-	-	-	-
PENRT	Total use of non-renewable primary energy resources	[MJ]	1,23E+04	3,89E+02	3,36E-01	0,00E+00	2,55E+01	0,00E+00	4E+01	-3,61E+03
SM	Use of secondary material	[kg]	2,65E+02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
RSF	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
NRSF	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
FW	Use of net fresh water	[m^3]	5,73E+00	1,08E-02	3,19E-03	0,00E+00	7,07E-04	0,00E+00	2,19E-01	-5,95E-01

RESULTS OF THE LCA – OUTPUT FLOWS AND WASTE CATEGORIES: One piece of ASSA ABLOY FD2250P manual folding door

Parameter	Parameter	Unit	A1 - A3	A4	A5	B6	C2	C3	C4	D
HWD	Hazardous waste disposed	[kg]	1,06E+00	8,85E-04	2,34E-05	0,00E+00	5,81E-05	0,00E+00	3,02E-03	1,18E-01
NHWD	Non-hazardous waste disposed	[kg]	2,36E+01	4,89E-02	2,12E-02	0,00E+00	3,21E-03	0,00E+00	1,33E+01	-7,92E+00
RWD	Radioactive waste disposed	[kg]	8,35E-01	5,09E-04	2,04E-05	0,00E+00	3,34E-05	0,00E+00	1,72E-03	-2,72E-02
CRU	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
MFR	Materials for recycling	[kg]	0,00E+00	0,00E+00	4,80E-01	0,00E+00	0,00E+00	3,48E+02	0,00E+00	6,57E+00
MER	Materials for energy recovery	[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
EEE	Exported electrical energy	[MJ]	0,00E+00	0,00E+00	1,42E+00	0,00E+00	0,00E+00	0,00E+00	1,74E+02	1,02E+01
EET	Exported thermal energy	[MJ]	0,00E+00	0,00E+00	3,99E+00	0,00E+00	0,00E+00	0,00E+00	4,77E+02	2,86E+01

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