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-20250401-IBA1-EN
Issue date	30.12.2025
Valid to	29.12.2030

Crawford Overhead Sectional Door OH1042P

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-20250401-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

30.12.2025

Valid to

29.12.2030

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

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

Crawford Overhead Sectional Door OH1042P

Owner of the declaration

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

Declared product / declared unit

This declaration represents 1 standard industrial overhead sectional door with electrical operation, 3600 mm width and 3600 mm height, consisting of sandwich panel sections filled with water blown CFC-free polyurethane foam, panel thickness 42 mm and panel height 545 mm.

Scope:

This declaration and its LCA study are relevant to the OH1042P overhead sectional door. The production location is Heerhugowaard, The Netherlands, and components are sourced from international tier one suppliers. The OH1042P door sizes vary according to project requirements.

The doors have multiple options in terms of windows, hardware, automation and much more that will affect the result of this EPD. The declared unit is an average door and due to that the calculations presented in this EPD are not directly applicable for any other door size but can be approximated linearly to any doors size and configuration.

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)

2. Product

2.1 Product description/Product definition

Product name: Crawford OH1042P
Product characteristic: Overhead sectional door

The Crawford OH1042P overhead sectional door is suitable for all types of buildings, regarding both function and appearance. High flexibility makes it possible to install this door in almost every type of building. The door slides up under the roof when opened, allowing free space around the door opening and leaving the door opening completely free. 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 waffled steel or aluminum. The panel has integrated finger pinch protection.
There is top, bottom and side seals and seals between door sections. The standard track system is made of galvanized steel. The balancing system balances the door by applying a force nearly equal to the weight of the door leaf. This allows the door leaf to be moved up and down, and to stay open in any position.

The door has 4 primary parts:
1) Door leaf
2) Track set
3) Balancing system
4) Operating system/chain hoist (optional)

In the following, the OH1042P, will be simplified as *the product*.

The product has been designed to meet all operational and safety requirements in the European Directives and the standards issued by the European Standardization Committee (CEN), such as but not limited to:

- *305/2011* Construction Products Regulation (CPR)
- *2006/42/EC* Machinery Directive (MD)
- *2014/30/EU* Electromagnetic Compatibility Directive (EMCD)
- *2011/65/EU* RoHS
- *2015/863/EU* RoHS

Other standards or technical specifications considered relevant to the environmental aspects of the product, which have been applied:

- Acoustic insulation: *EN ISO 10140-2:2021*
  R0=25dB (Door surface 2590 x 4210 mm)

- Wind load: *EN12424*
  Class 3 (≤ 4250 mm DLW)
  Class 2 (> 4250 mm DLW)
  Higher classes on request

- Water penetration: *EN12425*
  Class 3 (Door surface 4000 x 3310 mm, no passdoor)

- Air permeability: *EN12426*
  Class 3 (Door surface 4000 x 3310 mm without passdoor)
  Class 2 (Door surface 4000 x 3310 mm with passdoor)

- Thermal transmittance: *EN12428:2013*
  1.0 W/(m².K) Steel, no windows (5000 x 5000 mm)
  1.1 W/(m².K) Aluminum, no windows (5000 x 5000 mm)

2.2 Application

The overhead sectional door is suitable for all types of buildings, regarding both function and appearance. High flexibility makes it possible to install this door in almost every type of building. The door slides up under the roof when opened, allowing free space around the door opening and leaving the door opening completely free.

2.3 Technical Data

The technical properties of the product is following:

- Min size: (W x H): 1200 x 2150 [mm]
- Max size: (W x H): 8000 x 6000 [mm]
- Frame thickness: **42** [mm]
- Panel material: **Diamond grid steel** or aluminum sheet
- Panel filling: **CFC-free polyurethane**
- Panel weight: **Steel: 13**, Alu: 10 [kg/m2]
- Frame thickness: 44 [mm]
- Frame material: Aluminum tubular frames
- Filling: Windows or insulated sandwich panels
- Color outside: 13 standard RAL colors
- Color inside: RAL 9002
- Track types: Standard: SL (Standard Lift), Optional: **HL** (High Lift), LL (Low Lift), VL (Vertical Lift)
- Windows: DAS[1], DSS[2], DAD[3], DSD[4], TAD[5], TSD[6], SA3[7], SS3[8], SH4[9]
- Passdoor (optional): Optional: In door leaf or in side section
- Electrical operation (optional): **Automated operation**
- Opening/ closing Speed (if electrically operated):
  CDM9: 0.25 m/s
  CDM9 HD: 0.18 m/s
  CDM9 2H: opening 0.5 m/s, closing 0.25 m/s
  CDM9 S: opening 1m/s, closing 0,7m/s

- Lifetime expectations: 200.000 door cycles or **10 years**, when service/replacement program has been performed

****Bold text** and values are relevant for the product in this EPD*

[1]Double Acrylic Sheet
[2]Double Sealed Sheet
[3]Double Acrylic Double-sealed
[4]Double Sealed Double-glazed
[5]Triple Acrylic Double-sealed
[6]Triple Sealed Double-glazed
[7]Single Acrylic 3mm
[8]Single Sealed 3mm
[9]Single Hardened 4mm

Constructional data

Name	Value	Unit
Airborne sound reduction acc. to EN ISO 10140-2:2021	25	dB
Resistance to wind loads acc. to EN 12424 Class 3	700	N/m2
Water penetration acc. to EN12425 Class 3	>50	Pa
Air permeability coefficient acc. to EN12426 Class 3	6	m3/(m2h)
Heat transfer coefficient of the entire door acc. to EN 12428:2013*	1.0	W/(m2K)
Power input "Idle"	2.4	W
Power input "Operation"	5.95	W

**Door surface 5000 x 5000 mm, no passdoor*

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

2.4 Delivery status

The product width of 3600 mm and height 3600 mm is delivered in parts ready for installation. All necessary installation material is included. Every track type, offers specific installation kits to position the door in the building façade.

2.5 Base materials/Ancillary materials

The average composition for the product is following [in percentage of mass]:

Name	Value	Unit
Aluminium	1.91	%
Brass	0.01	%
Copper	0.80	%
Electronic	0.48	%
Others	0.15	%
Plastics	15.27	%
Stainless steel	0.04	%
Steel	80.91	%
Zinc	0.43	%
Total	100.0	%

2.6 Manufacture

The final manufacturing and assembly processes occur at the factory in Heerhugowaard, the Netherlands. The electronics are produced in Ostrov u Stribra, Czech Republic. The tracks are produced in Debrecen, Hungary. The factory in Heerhugowaard has a certification of quality management system in accordance with *ISO 9001:2015 & ISO 14001:2015*.

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 except for those outlined in *EWC 17 04 10*

2.7 Environment and health during manufacturing

ASSA ABLOY Entrance Systems 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, Greenhouse gases, energy, water, waste, Volatile Organic Compound (VOC), surface treatment and Health & Safety are being routinely monitored. Inspections, audits, and reviews are conducted periodically to ensure that applicable standards are met, and environment management program effectiveness is evaluated.
- Code of Conduct covers human rights, labor practices and decent work. Management of ASSA ABLOY Entrance Systems is aware of their roles and responsibilities, providing appropriate training, supporting accountability, and recognizing outstanding performance.
- Any waste metals during machining are separated and recycled.

2.8 Product processing/Installation

The door components are supplied ready for installation. The product is shipped to site in pre-assembled components. The components are assembled using simple tools including drills and hand tools. The installation is performed by qualified installation technicians.

2.9 Packaging

Packaging exists for the purpose of protection during transportation. The product components are packaged in polystyrene plastic and corrugated cardboard. All these packaging components are standard industry types. The cardboard is recyclable.
Packaging material is as following [in mass percentage]:

- Paper 69.85%
- Plastics 22.15%
- Steel 2.31%
- Wood 5.69%
- **Total 100.0%**

All materials incurred during installation are sent to a recycling unit (e.g. steel) and waste incineration plant (wood paper and plastic) for its energy recovery.

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* Wooden packaging.
- *EWC 17 04 05* Iron and steel

2.10 Condition of use

Regular inspections by a trained and qualified person are recommended a minimum of one visit per year or more.
Monthly examination procedure of the product:

1. Use a soft brush and a mild detergent to clean the track set and the door seals.
2. Make sure there are no loose screws, bolts or nuts on the door leaf or the track set. If necessary, tighten all loose screws, bolts, and nuts.
3. Examine all door leaf hinges, door seals, rollers, and roller holders for damage. If damage is found, contact the local service center for advice.
4. Examine the door lifting wires for damage and corrosion. If damage or corrosion is found, contact the local service center for advice.
5. Lubricate the metal door-leaf hinges with oil (SAE 20).

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 more than 200.000 cycles or 10 years standard daily use with the recommended maintenance and service program. For this EPD a lifetime of 10 years was considered.

2.13 Extraordinary effects

Fire

Test has been conducted according to *EN11925-2:2020* and *EN13823:2020+A1:2022*. The product is not fireproof. However, the product wall surfaces consist of a large amount of steel, which does not add to the spread of fire.

Fire protection

Fire protection classification according to *EN13501-1:2019*

Name	Value
Building material class	C
Burning droplets	d0
Smoke gas development	s3

Water

Contains no substances that have any impact on water. In case of a flood, 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 be re-used during the reference service life and be moved from one opening to another.

All recyclable materials are directed to a recycling unit where they are recycled (brass, electronics, electro-mechanics, stainless steel, steel, and aluminum).

On the other hand, the plastic components are sent to the waste incineration plant for its energy recovery.

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

- *EWC 16 02 14* Used devices with the exception of those outlined in *16 02 09* to *16 02 13*
- *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 except for those outlined in *17 04 10*

2.15 Disposal

The product can be mechanically dissembled to separate the different materials. The majority, of components are steel and aluminum which will be recycled. The plastic components are used for energy recovery in an incineration plant. No disposal is foreseen for the product nor for the corresponding packaging.

2.16 Further information

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3. LCA: Calculation rules

3.1 Declared Unit

The declaration refers to the functional unit of 1 piece of Crawford OH1042P overhead sectional door as specified in Part B requirements on the EPD IBU: PCR Automatic doors, automatic gates, and revolving door systems (door systems). Functional unit for module B6: Use of 1 piece of Crawford OH1042P overhead sectional door for 10 years.

Declared unit and mass reference

Name	Value	Unit
Declared unit	1	pce.
Dimensions for overhead sectional door (WxH)	3600 x 3600	mm
Mass (without packaging)	270.80	kg
Mass packaging (paper, plastic, wood and steel)	32.50	kg
Mass reference	303.30	kg/pce

3.2 System boundary

Type of the EPD: cradle to grave with module D (A+B+C+D). 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 overhead sectional 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 0.04 hours in on mode and 23.96 hours in standby per day (220 days per year in use, 10 years lifetime); the power consumption throughout the whole life cycle is 0.210 MWh.

EoL: In the End-of-Life stage, for all the materials from the product which can be recycled (aluminum, brass, copper, stainless steel, steel, zinc, and electronics), 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 2024 (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 his EPD, the following specific life cycle inventories for the WIP are considered for:

- 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, the sematerials 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 2024.2 serves as background database for the calculation.

4. LCA: Scenarios and additional technical information

Characteristic product properties of biogenic carbon

Mass of packaging with biogenic carbon is 24.55 kg (cardboard and wood).

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	10.69	kg C

Note: 1 kg of biogenic carbon is equivalent to 44/12 kg of CO_2.

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
Litres of fuel	27.5	l/100km
Capacity utilisation (including empty runs)	61	%
Transport distance by ship	21	km
Transport distance by truck	750	km

Installation into the building (A5)

Name	Value	Unit
Output substances following waste treatment on site (paper/cardboard packaging)	22.7	kg
Output substances following waste treatment on site (steel packaging)	0.75	kg
Output substances following waste treatment on site (wood packaging)	1.85	kg
Output substances following waste treatment on site (plastic packaging)	7.2	kg

Reference service life

Name	Value	Unit
Life Span according to the manufacturer	10	years

Operational energy use (B6)

Name	Value	Unit
Electricity consumption per RSL (10 years, 220 days per year)	210.55	kWh
Hours per day in on mode	0.04	h
Hours per day in idle mode	23.96	h
Power consumption – on mode	5.95	W
Power consumption – idle mode	2.4	W

For the remaining days (145 days) the product is in idle mode.

*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)*days_year
+(W_idle_mode*24)*(365-days_year))*Life_span*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
Transportation to EoL (C2)	100	km
Collected separately waste type (aluminium, brass, copper, plastics, stainless steel, steel, zinc, electronics, and others)	270.8	kg
Incineration of plastic parts	41.34	kg
Recycling (aluminum, brass, copper, stainless steel, steel, zinc, and electronics)	229.06	kg
Landfill	0.39	kg

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

Name	Value	Unit
Collected separately waste type (including packaging)	302.9	kg
Recycling aluminium	1.70	%
Recycling brass	0.012	%
Recycling copper	0.71	%
Recycling stainless steel	0.035	%
Recycling steel	72.35	%
Recycling of zinc	0.38	%
Recycling electronic	0.43	%
Incineration of plastic parts	13.65	%
Incineration of paper	7.48	%
Incineration of packaging (paper, wood and plastic) (from A5)	10.48	%
Recycling of steel packaging	0.25	%

5. LCA: Results

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	X	MNR	MNR	MNR	X	MND	X	X	X	X	X

RESULTS OF THE LCA - ENVIRONMENTAL IMPACT according to EN 15804+A2: 1 piece Crawford Overhead sectional door OH1042P

Parameter	Unit	A1-A3	A4	A5	B2	B6	C1	C2	C3	C4	D
GWP-total	kg CO_2 eq	7.48E+02	1.74E+01	3.21E+01	0	6.35E+01	0	2.06E+00	8.79E+01	0	-4.35E+02
GWP-fossil	kg CO_2 eq	8.34E+02	1.71E+01	7.49E-01	0	6.29E+01	0	2.02E+00	8.45E+01	0	-4.35E+02
GWP-biogenic	kg CO_2 eq	-3.92E+01	4.05E-02	3.14E+01	0	5.66E-01	0	4.82E-03	3.45E+00	0	2.24E-01
GWP-luluc	kg CO_2 eq	7.59E-01	2.85E-01	4.98E-04	0	9.55E-03	0	3.39E-02	4.25E-03	0	-1.83E-01
ODP	kg CFC11 eq	6.19E-09	2.5E-12	4.39E-12	0	1.43E-09	0	2.97E-13	2.15E-11	0	6.35E-10
AP	mol H^+ eq	2.16E+00	2.73E-02	8.96E-03	0	1.22E-01	0	2.76E-03	1.56E-02	0	-1.16E+00
EP-freshwater	kg P eq	1.92E-03	7.24E-05	1.25E-06	0	2.61E-04	0	8.62E-06	5.25E-06	0	-1.36E-04
EP-marine	kg N eq	5.23E-01	9.38E-03	3.29E-03	0	3.03E-02	0	1E-03	4.31E-03	0	-2.58E-01
EP-terrestrial	mol N eq	5.59E+00	1.11E-01	4.1E-02	0	3.18E-01	0	1.19E-02	6.44E-02	0	-2.8E+00
POCP	kg NMVOC eq	1.7E+00	2.58E-02	8.73E-03	0	8.03E-02	0	2.75E-03	1.26E-02	0	-8.3E-01
ADPE	kg Sb eq	2.26E-02	1.48E-06	4.64E-08	0	1.18E-05	0	1.76E-07	2.13E-07	0	-1.89E-02
ADPF	MJ	1.07E+04	2.24E+02	9.9E+00	0	1.32E+03	0	2.66E+01	4.12E+01	0	-3.99E+03
WDP	m^3 world eq deprived	5.92E+01	2.63E-01	3.99E+00	0	1.74E+01	0	3.12E-02	8.38E+00	0	-2.62E+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 Crawford Overhead sectional door OH1042P

Parameter	Unit	A1-A3	A4	A5	B2	B6	C1	C2	C3	C4	D
PERE	MJ	3.11E+03	1.92E+01	5.37E+02	0	9.54E+02	0	2.29E+00	1.19E+01	0	-1.44E+02
PERM	MJ	5.34E+02	0	-5.34E+02	0	0	0	0	0	0	0
PERT	MJ	3.64E+03	1.92E+01	2.7E+00	0	9.54E+02	0	2.29E+00	1.19E+01	0	-1.44E+02
PENRE	MJ	8.88E+03	2.24E+02	1.83E+02	0	1.32E+03	0	2.66E+01	1.71E+03	0	-3.99E+03
PENRM	MJ	1.84E+03	0	-1.73E+02	0	0	0	0	-1.67E+03	0	0
PENRT	MJ	1.07E+04	2.24E+02	9.9E+00	0	1.32E+03	0	2.66E+01	4.11E+01	0	-3.99E+03
SM	kg	8.84E+01	0	0	0	0	0	0	0	0	1.37E+02
RSF	MJ	0	0	0	0	0	0	0	0	0	0
NRSF	MJ	0	0	0	0	0	0	0	0	0	0
FW	m^3	2.71E+00	2.14E-02	9.39E-02	0	7.3E-01	0	2.55E-03	2E-01	0	-1.25E+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 Crawford Overhead sectional door OH1042P

Parameter	Unit	A1-A3	A4	A5	B2	B6	C1	C2	C3	C4	D
HWD	kg	1.26E-04	8.58E-09	5.64E-09	0	1.91E-06	0	1.02E-09	2.56E-08	0	-2.68E-05
NHWD	kg	4.1E+01	3.66E-02	1.01E+00	0	1.09E+00	0	4.34E-03	7.94E+00	0	-3.14E+01
RWD	kg	2.5E-01	4.08E-04	4.99E-04	0	2.11E-01	0	4.84E-05	1.64E-03	0	-4.75E-02
CRU	kg	0	0	0	0	0	0	0	0	0	0
MFR	kg	0	0	0	0	0	0	0	2.25E+02	0	0
MER	kg	0	0	0	0	0	0	0	0	0	0

EEE	MJ	2.52E+00	0	4.87E+01	0	0	0	0	1.62E+02	0	0
EET	MJ	5.84E+00	0	8.83E+01	0	0	0	0	2.88E+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 Crawford Overhead sectional door OH1042P

Parameter	Unit	A1-A3	A4	A5	B2	B6	C1	C2	C3	C4	D
PM	Disease incidence	2.96E-05	3.03E-07	4.92E-08	0	1.02E-06	0	2.77E-08	1.61E-07	0	-1.72E-05
IR	kBq U235 eq	3.68E+01	5.92E-02	7.84E-02	0	3.48E+01	0	7.02E-03	2.32E-01	0	-7.86E+00
ETP-fw	CTUe	3.15E+03	1.67E+02	4.33E+00	0	3.83E+02	0	1.97E+01	2.58E+01	0	-7.42E+02
HTP-c	CTUh	9.61E-07	3.36E-09	2.57E-10	0	2.15E-08	0	3.98E-10	1.64E-09	0	-6.23E-07
HTP-nc	CTUh	5.7E-06	1.51E-07	5.08E-09	0	3.29E-07	0	1.79E-08	1.15E-07	0	-8.3E-07
SQP	SQP	9.35E+03	1.1E+02	3.02E+00	0	5.56E+02	0	1.31E+01	1.11E+01	0	-3.64E+01

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 70% and 99% 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 for all the impact categories is the production of steel, and aluminium mainly due to the energy consumption of these processes. These three materials account for approx. 82% 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.

To reflect the use stage (module B6) during a service life of 10 years, the energy consumption was included, and it has a small contribution for all core impact assessment categories considered - between 1% and 12%, with the exception of ODP (18.65%) and WDP (19.51%). This is a result of 0.04 hours of operation in on mode, 0 hours in stand-by mode, and 23.96 hours in idle 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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EN 15804:2012+A2:2019/AC:2021
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Construction Product Regulation (CPR), laying down harmonized conditions for the marketing of construction products and repealing Council Directive 89/106/EEC

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

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Electromagnetic Compatibility Directive (EMCD), European directive on the harmonization of the laws of the Member States relating to electromagnetic compatibility (recast)

2011/65/EC
European directive on the restriction of the use of certain hazardous substances (RoHS) in electrical and electronical equipment

2015/863/EU

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Acoustics - Laboratory measurement of sound insulation of building elements - Part 2: Measurement of airborne sound insulation

EN 12424
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EN 12426 Industrial, commercial and garage doors and gates - Air permeability - Classification

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EWC
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IBU PCR Part B
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Institut Bauen und Umwelt e.V.: General Instructions for the EPD programme of Institut Bauen und Umwelt e.V., Version 2.0, Berlin: Institut Bauen und Umwelt e.V., 2021 www.ibu-epd.com

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Tool for the Reduction and Assessment of Chemical and Other Environmental Impacts(TRACI), EPA/600/R-12/554 2012

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