

ENVIRONMENTAL PRODUCT DECLARATION

as per ISO 14025 and EN 15804+A2

Owner of the Declaration	ASSA ABLOY Entrance Systems
Publisher	Institut Bauen und Umwelt e.V. (IBU)
Programme holder	Institut Bauen und Umwelt e.V. (IBU)
Declaration number	EPD-ASA-20240096-IBA1-EN
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Valid to	27/01/2030

ASSA ABLOY DS6060A Curtain Dock Shelter Aluminium ASSA ABLOY Entrance Systems

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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-20240096-IBA1-EN

This declaration is based on the product category rules:

Loading dock and loading dock equipment, 01/08/2021
(PCR checked and approved by the SVR)

Issue date

28/01/2025

Valid to

27/01/2030



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



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

ASSA ABLOY DS6060A Curtain Dock Shelter Aluminium

Owner of the declaration

ASSA ABLOY Entrance Systems
Lodjursgatan 10
26144 Landskrona
Sweden

Declared product / declared unit

This declaration represents 1 mechanical curtain dock shelter with the following configuration:
Dock shelter depth 600 mm, nominal height 3600 mm, nominal width 3450 mm, top curtain 1000 mm, side curtain 700 mm, curtain colour black, parking guides white, aluminium frame. Product name: ASSA ABLOY DS6060A curtain dock shelter aluminium.

Scope:

This declaration and its LCA study are relevant to the ASSA ABLOY DS6060A curtain dock shelter aluminium. The production location is Hunedoara, Romania and components are sourced from international tier one suppliers. ASSA ABLOY DS6060A curtain dock shelter aluminium size vary according to project requirements; a standard dock shelter depth 600 mm, nominal height 3600 mm, nominal width 3450 mm, curtain colour black, parking guides white, aluminium frame 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	
<input type="checkbox"/>	internally
<input checked="" type="checkbox"/>	externally



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

2. Product

2.1 Product description/Product definition

Product name: ASSA ABLOY DS6060A

Product characteristic: Mechanical curtain dock shelter.

The vehicle reverses backwards into the curtain dock shelter which seals it off with flexible side and top curtains, giving weather protection during the loading and unloading process when the sectional door of the loading bay is opened. The curtain material has a very high wear and tear resistance.

Should a vehicle deviate from the dock-in centerline and hit the shelter frame, built-in springs allow the shelter to follow the movement without being damaged.

The dock shelter consists of five main components:

- 1) Rear frame sides and top
- 2) Bracing arms and springs in the side sections
- 3) Front frame side and top
- 4) Front side curtains and front top curtain
- 5) Continuous roof cover curtain

The rear frame is connected to the building façade around the door opening of the loading bay. The bracing arms and springs in the side sections make the dock shelter collapsible and secures that the front part is tensed with pressure towards the vehicle. The front frame side and top hold the front curtains in place. The front curtains are in contact with the rear construction of the vehicle and seal it off to the side and the top. The continuous roof cover curtain closes the side and top sections between the rear and the front frame; this is the sidewalls and the roof of the dock shelter. The ASSA ABLOY dock shelter DS6060A has been designed to meet all operational and safety requirements in the European Directives and the standards issued by the European Standardization Committee (CEN).

Standards or technical specifications, which have been applied:

- DIN 60001 carrier fabric.
- DIN 53354 tensile strength
- DIN 75200 behaviour in fire
- DIN 53363 tear elongation

For the application and use, the respective national provisions apply.

2.2 Application

The ASSA ABLOY dock shelter is part of the total docking solution. It seals off the vehicle with flexible side and top curtains, giving weather protection during the loading and unloading process when the sectional door of the loading bay is opened. The ASSA ABLOY dock shelter is the standard solution for energy saving oriented operators.

2.3 Technical Data

The table presents the technical properties of the ASSA ABLOY DS6060A curtain dock shelter aluminium:

Technical data (specify system and properties)

Name	Value	Unit
Height (normal) (Dock shelter)*	3.6	m
Width (normal) (Dock shelter)*	3.45	m
Depth (normal) (Dock shelter)*	600	mm
Curtain on top (Dock shelter)	1000	-
Curtain on side (Dock shelter)	700	-
Parking guides (Dock shelter)	White	-
Curtains material, quality, thickness and weight (top and side) (Dock shelter)	Double layer with high quality polyester 3.0 mm 3400 g/m ²	-
roof cover material, thickness and weight (continuous) (Dock shelter)	One layer high quality Polyester 0.5 mm 680 g/m ²	-
Flammability DIN 75200 (Dock shelter)	Compliant	-
Weight (Dock shelter)	0.118	t

* Other sizes available

Product for which no legal provisions for harmonisation of the EU exist:

- DIN 60001 carrier fabric
- DIN 53354 tensile strength
- DIN 75200 behaviour in fire
- DIN 53363 tear elongation

2.4 Delivery status

The ASSA ABLOY DS6060A curtain dock shelter aluminium is delivered partly pre-assembled and in individual parts for completion and installation on site.

2.5 Base materials/Ancillary materials

The average composition for ASSA ABLOY DS6060A curtain dock shelter aluminium is as following:

Name	Value	Unit
Aluminium	30.44	%
Plastics	31.89	%
Stainless Steel	5.47	%
Steel	32.11	%
Paper	0.03	%
Others	0.07	%
Total	100	%

2.6 Manufacture

The final manufacturing processes occur in the factory Hunedoara, Romania. All main aluminium frame parts and steel components are delivered fully processed by local Romanian suppliers, the curtains by a Czech supplier. The production process is composed of fixing the front top and side curtains to the front aluminium frames by sliding the curtain into the slits in the frame and fixing with rivets, and by packing all the materials into the cardboard box.

The factory in Hunedoara has a Quality Management system certified according to ISO 9001:2015.

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 08 02 01 waste coating powders

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.

• The factory of Hunedoara, Romania has an Environmental Management system certified according to ISO 14001:2015

2.8 Product processing/Installation

The dock shelter is delivered partly pre-assembled and in individual parts ready for completion and installation on site.

The rear frame is connected to the facade of the building in front of the door opening of the loading bay, the bracing arms are mounted to the rear frame. The front side frames with pre-mounted front curtains from the factory are connected to the bracing arms. The front top frame with pre-mounted curtains from the factory is connected with angle brackets to the side front frames and the springs are mounted in the side sections. Then the continuous roof curtain is positioned in the profile of the front and rear frame and pulled through to cover the side and roof part.

The installation is performed by qualified installation technicians using a drilling machine, angle grinder and other hand tools.

2.9 Packaging

Packaging exists for the purpose of protection during transportation. The material of the dock shelter is packed in a cardboard box with plastic film and bands for the transport safety. A wooden pallet is used for the transport, the standard transport volume of one piece of dock shelter is about 3600x1000x300 mm. The cardboard box, the plastics and the wooden pallet are recyclable.

The packaging includes cardboard/paper (17.26%), wood (81.61%), steel (0.20%), plastics (0.93%).

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. The dock shelter must be inspected for wear and tear and the general functionality.

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

ASSA ABLOY mechanical curtain dock shelters are rated for 15 years of standard daily use. This reference service life is based on ASSA ABLOY's own experience over the last 50 years and is valid for the 10 main competitor's products in the docking industry. For this EPD a lifetime of 15 years of the product was considered

Description of the influences on the ageing of the product when applied in accordance with the rules of technology.

2.13 Extraordinary effects

Fire

Mechanical shelter itself is not fireproof and is not suitable to use in a fireproof system

Water

Contains no substances that impact water in case of a flood.

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 be moved from one docking station to another. All recyclable materials are directed to a recycling unit where they are recycled (aluminium, steel and stainless steel).

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 17 04 02 aluminium
- EWC 17 02 03 plastic
- EWC 17 04 05 iron and steel

2.15 Disposal

The product can be mechanically dissembled to separate the different materials. The majority, of components are steel and aluminium 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

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 DS6060A curtain dock shelter aluminium depth 600

mm, nominal height 3600 mm, nominal width 3450 mm) as specified in Part B requirements on the EPD IBU: PCR Loading dock and loading dock equipment. Functional unit for module B6: Use of 1 piece of ASSA ABLOY DS6060A curtain dock

shelter aluminium for 50 years.

Declared unit

Name	Value	Unit
Mass (without packaging)	117.97	kg
Mass packaging (paper wood, steel and plastics)	74.04	kg
Declared unit (Curtain Dock Shelter Aluminium)	1	pce.
Mass reference	117.97	kg/pce
Dimensions (W x H)	3450 x 3600	mm

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

End-of-life stage:

- 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.

EoL:

In the End-of-Life stage, for all the materials from the product which can be recycled, 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 Assessment 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 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, these materials are considered in module D. Specific information on allocation within the background data is given in the Sphera 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 version 2020.1 serves as background database for the calculation.

4. LCA: Scenarios and additional technical information

Characteristic product properties of biogenic carbon

Packaging material containing biogenic carbon includes wood (60.42 kg) and paper (12.78 kg).

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	35.7	kg C

Note: 1 kg of biogenic carbon is equivalent to 44/12 kg of CO₂

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 with maximum load (27t payload)	27.5	l/100km
Transport distance by truck (primary target market is EU 28)	2647	km
Capacity utilisation (including empty runs)	-	%
Transport distance by ship	21	km

Installation into the building (A5)

Name	Value	Unit
Output substances following waste treatment on site (paper/cardboard packaging)	12.78	kg
Output substances following waste treatment on site (steel packaging)	0.15	kg
Output substances following waste treatment on site (wood packaging)	60.42	kg
Output substances following waste treatment on site (plastic packaging)	0.69	kg

Reference service life

Name	Value	Unit
Life Span according to the manufacturer	50	a

End of life (C1-C4)

Name	Value	Unit
Collected separately waste type (aluminium, steel, brass, plastics, stainless steel, copper, electronic, electromechanics etc.)	80.23	kg
Transport to EoL (C2)	100	km
Incineration of plastic parts	0.18	kg
Incineration of paper	0.04	kg
Recycling (aluminium, steel, copper, electronic, electro-mechanics, stainless steel and brass)	0.00	kg
Landfill	37.53	kg

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

Name	Value	Unit
Collected separately waste type (including packaging)	154.48	kg
Recycling aluminium	23.25	%
Recycling brass	0.00	%
Recycling copper	0.00	%
Recycling stainless steel	4.18	%
Recycling steel	24.61	%
Recycling electronic	0.00	%
Recycling electro mechanics	0.00	%
Incineration of plastic parts	0.56	%
Incineration of paper	0.0002	%
Incineration of packaging (paper, wood and plastic) (from A5)	47.41	%
Recycling of steel packaging	0.10	%

5. LCA: Results

Results shown are calculated according to EN 15804+A2.

Note:

EP-freshwater: This indicator has been calculated as 'kg P eq' as required in the characterization model (EUTREND model, Struijs et al., 2009b, as implemented in ReCiPe; <http://eplca.jrc.ec.europa.eu/LCDN/developerEF.xhtml>).

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	MND	MND	X	X	X	X	X

RESULTS OF THE LCA - ENVIRONMENTAL IMPACT according to EN 15804+A2: One Piece DS6060A

Parameter	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP-total	kg CO ₂ eq	2.84E+02	7.26E+00	1.3E+02	0	7.12E-01	9.71E+01	0	-4.23E+02
GWP-fossil	kg CO ₂ eq	4.17E+02	7.25E+00	1.11E+00	0	7.07E-01	9.7E+01	0	-4.22E+02
GWP-biogenic	kg CO ₂ eq	-1.34E+02	8.72E-03	1.29E+02	0	0	4.5E-02	0	-8.74E-01
GWP-luluc	kg CO ₂ eq	5.05E-01	2.1E-03	4.86E-04	0	5.73E-03	3.41E-03	0	-1.54E-01
ODP	kg CFC11 eq	5.5E-09	6.91E-16	4.75E-15	0	8.51E-17	2.82E-14	0	6.88E-11
AP	mol H ⁺ eq	1.47E+00	2.69E-01	1.37E-01	0	7.26E-04	1.29E-02	0	-1.63E+00
EP-freshwater	kg P eq	9.51E-04	2.32E-06	9.47E-07	0	2.15E-06	4.76E-06	0	-2.55E-04
EP-marine	kg N eq	2.81E-01	6.83E-02	3.42E-02	0	2.12E-04	3.49E-03	0	-2.24E-01
EP-terrestrial	mol N eq	3.04E+00	7.48E-01	3.81E-01	0	2.55E-03	5.77E-02	0	-2.43E+00
POCP	kg NMVOC eq	1.07E+00	1.92E-01	1.1E-01	0	5.88E-04	1E-02	0	-7E-01
ADPE	kg Sb eq	6.31E+03	8.81E+01	7.89E+00	0	9.43E+00	3.77E+01	0	-5.61E+03
ADPF	MJ	9.9E-03	1.98E-07	7.66E-08	0	5.08E-08	4.16E-07	0	4.67E-04
WDP	m ³ world eq deprived	3.96E+01	1.48E-02	6.01E+00	0	6.33E-03	1.01E+01	0	-5.05E+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: One Piece DS6060A

Parameter	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
PERE	MJ	1.63E+03	4.6E-01	1.38E+03	0	5.3E-01	8.28E+00	0	-2.04E+03
PERM	MJ	1.38E+03	0	-1.38E+03	0	0	-6.09E-01	0	0
PERT	MJ	3.01E+03	4.6E-01	1.4E+00	0	5.3E-01	7.67E+00	0	-2.04E+03
PENRE	MJ	6.29E+03	8.82E+01	2.37E+01	0	9.44E+00	4.41E+01	0	-5.61E+03
PENRM	MJ	2.22E+01	0	-1.58E+01	0	0	-6.43E+00	0	0
PENRT	MJ	6.31E+03	8.82E+01	7.89E+00	0	9.44E+00	3.77E+01	0	-5.61E+03
SM	kg	5.29E+01	0	0	0	0	0	0	0
RSF	MJ	0	0	0	0	0	0	0	0
NRSF	MJ	0	0	0	0	0	0	0	0
FW	m ³	2.8E+00	7.16E-04	1.4E-01	0	6.14E-04	2.4E-01	0	-4.58E+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: One Piece DS6060A

Parameter	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
HWD	kg	6.57E-05	1.58E-07	1.45E-08	0	4.39E-07	1.28E-07	0	-1.54E-06
NHWD	kg	2.74E+01	9.19E-03	1.14E+00	0	1.44E-03	9.36E+00	0	-7.95E+01
RWD	kg	2.26E-01	9.88E-05	3.54E-04	0	1.17E-05	1.55E-03	0	-3.65E-01
CRU	kg	0	0	0	0	0	0	0	0
MFR	kg	0	0	0	0	0	8.04E+01	0	0

MER	kg	0	0	7.32E+01	0	0	0	0	0
EEE	MJ	0	0	3.27E+02	0	0	2.15E+02	0	0
EET	MJ	0	0	4.72E+02	0	0	3.87E+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: One Piece DS6060A

Parameter	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
PM	Disease incidence	1.56E-05	4.48E-06	5.92E-07	0	4.32E-09	1.8E-07	0	-1.66E-05
IR	kBq U235 eq	2.48E+01	1.42E-02	5.21E-02	0	1.69E-03	2E-01	0	-7.02E+01
ETP-fw	CTUe	2.77E+03	6.23E+01	5.45E+00	0	6.66E+00	2.73E+01	0	-1.7E+03
HTP-c	CTUh	1.3E-05	1.18E-09	7.99E-09	0	1.4E-10	1.46E-09	0	2.85E-06
HTP-nc	CTUh	8.46E-06	5.62E-08	6.84E-07	0	7.2E-09	1.58E-07	0	-4.14E-06
SQP	SQP	1.59E+04	1.36E+00	1.89E+00	0	3.31E+00	9.38E+00	0	-3.93E+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 approximately 71 % and 91% to the overall results for all the environmental impact assessment categories hereby considered, except for the abiotic depletion potential (ADPE), for which the contribution from the production stage accounts for 99.99% - this impact category describes the reduction of the global amount of non-renewable raw materials, therefore, as expected, it is mainly related to the extraction of raw materials (A1). The ozone depletion potential (ODP), for which the contribution from the production stage accounts for 100 %. Global warming potential (GWP) from A1-A3 modules account

for approximately 55% of the total impact.

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 two materials account for approx. 62% 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

Standards

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Sustainability of construction works — Environmental Product Declarations — Core rules for the product category of construction products.

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ISO 14025 EN ISO 14025:2011

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ISO 9001

ISO 9001:2015, Quality management systems - Requirements

ISO 14001:2015

ISO 14001:2015 Environmental management systems - Requirements with guidance for use

DIN EN ISO 14025

DIN EN ISO 14025:2010, Environmental labels and declarations - Type III environmental declarations - Principles and procedures

EN 15804+A2

EN 15804:2014+A2:2020, Sustainability of construction works

— Environmental Product Declarations — Core rules for the product category of construction products

DIN 60001

DIN 60001 Carrier fabric

DIN 53354

DIN 53354 Tensile strength

DIN 75200

DIN 75200 Behavior in fire

DIN 53363

DIN 53363 Tear elongation

EWC

European Waste Catalogue established by Commission Decision 2000/532/EC

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IBU PCR Part A

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TRACI Methodology

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

**Publisher**

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

+49 (0)30 3087748- 0
info@ibu-epd.com
www.ibu-epd.com

**Programme holder**

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

+49 (0)30 3087748- 0
info@ibu-epd.com
www.ibu-epd.com

**Author of the Life Cycle Assessment**

Sphera Solutions GmbH
Hauptstrasse 111
70771 Echterdingen-Leinfelden
Germany

+49711341817-0
info@sphera.com
www.sphera.com

**Owner of the Declaration**

ASSA ABLOY Entrance Systems
Lodjursgatan 10
26144 Landskrona
Sweden

+46 10 47 47 000
info.aes@assaabloy.com
www.assaabloyentrance.com