

ENVIRONMENTAL PRODUCT DECLARATION

as per ISO 14025 and EN 15804+A2

Owner of the Declaration	ASSA ABLOY Opening Solutions Sweden AB
Programme holder	Institut Bauen und Umwelt e.V. (IBU)
Publisher	Institut Bauen und Umwelt e.V. (IBU)
Declaration number	EPD-ASA-20210013-ICB-EN
Issue date	14/04/2021
Valid to	13/04/2026

ASSA ABLOY PULSE
ASSA ABLOY Opening Solutions

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1. General Information

ASSA ABLOY Opening Solutions

Programme holder

IBU – Institut Bauen und Umwelt e.V.
Panoramastr. 1
10178 Berlin
Germany

Declaration number

EPD-ASA-20210013-ICB-EN

This declaration is based on the product category rules:

Building Hardware products, 02.2016
(PCR checked and approved by the SVR)

Issue date

14/04/2021

Valid to

13/04/2026



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



Dr. Alexander Röder
(Managing Director Institut Bauen und Umwelt e.V.)

ASSA ABLOY PULSE

Owner of the declaration

ASSA ABLOY Opening Solutions Sweden AB
Kungsgatan 71
632 21 Eskilstuna
Sweden

Declared product / declared unit

The declaration represents 1 piece of
electromechanical lock cylinder

Scope:

This study covers the ASSA ABLOY PULSE
electromechanical lock cylinder used on the European
market. The key, strike, screws or handle are not
included in the scope.

The calculations and results in the EPD are made for
the round variant of the lock cylinder. The product is
also produced and sold in an oval variant, for which the
results in this EPD are representative as a
conservative estimate. The two variants have the same
composition except for the design and weight of the
cylinder housing. The total weight is 249 grams for the
round version and 130 grams for the oval version. The
results can thus be seen as a conservative estimate
also for the oval version.

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 14025:2010*

internally externally



Dr.-Ing. Wolfram Trinius
(Independent verifier)

2. Product

2.1 Information about the enterprise

ASSA ABLOY Opening Solutions Sweden AB

2.2 Product description/Product definition

Product name: ASSA ABLOY PULSE

Product characteristic:

Digital locking cylinder with energy harvesting that is
completely powered by the insertion of the digital key.
Key management and accessibility features enable
replacing and adding keys remotely.

With patented features combined with precision
engineering and cross-function compatibility, the
PULSE cylinder offers:

- High security.
- Resistant to picking and manipulation.
- Resistant to bumping.
- Case-hardened drill-resistant inserts.
- Patented.

Round cylinder with extended security against attack

For the placing on the market of the products in
the European Union/European Free Trade Association
(EU/EFTA) (with the exception of Switzerland) the

following harmonization legislation of the European Union applies:

The following directives apply:

Directive 2014/53/EU of the European Parliament and of the Council of 16 April 2014 on the harmonization of the laws of the Member States relating to the making available on the market of radio equipment and repealing *Directive 1999/5/EC* Text with European Economic Area (EEA) relevance - RED *Directive 2014/53/EU*

Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment - *RoHS2 2011/65/EU*

and

Commission delegated *directive (EU) 2015/863* of 31 March 2015 amending Annex II to *Directive 2011/65/EU* of the European Parliament and of the Council as regards the list of restricted substances - *RoHS3 2015/863/EU*

DoC (document of conformity) reference number D0001128671

For the application and use of the products the respective national provisions apply

2.3 Application

ASSA ABLOY PULSE cylinders are suitable for a wide range of applications – all from private to commercial and public sectors, for all types of doors:

- Fits in all modern Scandinavian lockcases including Evolution- Modul- and 51-series.
- For internal and external use

2.4 Technical Data

The table presents the technical properties of ASSA ABLOY PULSE cylinders:

Technical data

Name	Value	Unit
Dimensions (W*H*D or W*H*L)	20 x 35 x 40	mm
Weight	0.249 (round)*	kg
Supply voltage	NA	VAC/DC
Power consumption (Stand-by)	0	mA
Power consumption (Idle)	0	mA
Power consumption (Peak)	0	mA
Temperature (Operating)	-35 to +85	°C
Temperature (Storage)	0 to +50	°C

*The weight of the oval version of the product is 0.132 kg

2.5 Delivery status

ASSA ABLOY PULSE cylinders are delivered as separate in a box size – 75 mm x 48 mm x 35 mm

2.6 Base materials/Ancillary materials

Lock composition

The average composition for ASSA ABLOY PULSE is as following (Round version):

Name	Value	Unit
Steel	92.73	%
Stainless steel	6.69	%
Copper	0.21	%
Plastics	0.15	%
Other	0.22	%
Total	100	%

2.7 Manufacture

The primary manufacturing processes are made by Tier 1 suppliers and the final manufacturing processes occur in factory Joensuu, Finland.

The components come from processes like machined metal and hardened steel. Final assembly takes place in Finland.

The factory of Joensuu has a certification of Quality Management system in accordance with *ISO 9001:2015*.

2.8 Environment and health during manufacturing

ASSA ABLOY Opening Solutions 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 Gas (GHG), energy, water, waste, Volatile Organic Compound (VOC), surface treatment and Health and Safety (H&S) are being routinely monitored. Inspections, audits, and reviews are conducted periodically to ensure that applicable standards are met, and environmental management program effectiveness is evaluated.
- Code of Conduct covers human rights, labour practices and decent work. Management of ASSA ABLOY Opening Solutions is aware of their environmental roles and responsibilities, providing appropriate training, supporting accountability and recognizing outstanding performance.

The factory in Finland has certification of Environmental Management to *ISO 14001:2015* and Occupational Health and Safety Assessment Series (*OHSAS*) *18001:2007*:

- *ISO 9001:2015*, FINAS accredited *Certificate No. 54491-2009-AQ-FIN-FINAS*
- *ISO 14001:2015*, FINAS accredited *Certificate No. 54494-2009-AE-FIN-FINAS*
- *OHSAS 18001:2007* FINAS accredited *Certificate No. 54495-2009-AHSO-FIN-FINAS*

2.9 Product processing/Installation

ASSA ABLOY PULSE cylinders are distributed through and installed by trained installation technicians, such as locksmiths, carpenters etc. adhering to local/national standards and requirements. It can also be installed by the end user.

2.10 Packaging

ASSA ABLOY PULSE cylinders are packed in a cardboard box with corrugated carton inlays. The packaging is fully recyclable. Separate package with dimensions: 75 mm x 48 mm x 35 mm

2.11 Condition of use

To maintain low friction, bi-annual maintenance <1g of oil according to the manufacturer's standard, should be added inside the cylinder through the profile. Electromechanical cylinders can be replaced or upgraded.

2.12 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 installation and use of the product.

2.13 Reference service life

Approved for 100.000 cycles under normal working conditions.

2.14 Extraordinary effects

Fire

Suitable for use in fire and smoke doors. Cylinders have been tested and will be classed as Grade B: Suitable for use on fire and smoke door assemblies in accordance with *EN 15684*.

Water

Contain no substances that have any impact on water in case of flood. Electric operation of the device will be influenced negatively.

Mechanical destruction

No danger to the environment can be anticipated during mechanical destruction

2.15 Re-use phase

The product is possible to re-use during the reference service life and be moved from one door to another.

2.16 Disposal

The locks can be mechanically dissembled to separate the different materials. The majority, of components is steel, stainless steel and copper which can be recycled. The plastic components can be used for energy recovery in an incineration plant.

2.17 Further information

Sweden:

ASSA ABLOY Opening Solutions Sweden AB
Kungsgatan 71
63105 Eskilstuna
Sweden +46(0)771640640

Mail: helpdesk.se.openingsolutions@assaabloy.com

Website: www.assaabloyopeningsolutions.se

Norway:

ASSA ABLOY Opening Solutions Norway A/S
Anolitveien 1-3, 1400 Ski
Postboks 424, 1402 Ski
Norge +47 69 24 52 00

Mail helpdesk.no.openingsolutions@assaabloy.com

Website: www.assaabloyopeningsolutions.no

Denmark:

ASSA ABLOY Opening Solutions Denmark A/S
Borupvang 5D
2750 Ballerup
Danmark +45 44 54 44 54

Mail info.dk.openingsolutions@assaabloy.com

Website: www.assaabloyopeningsolutions.dk

3. LCA: Calculation rules

3.1 Declared Unit

The declared unit used in the study is one piece of electromechanical lock cylinder

Declared unit

Name	Value	Unit
Declared unit piece of electromechanical lock cylinder	1	piece/product
Conversion factor to 1 kg (mass of declared unit)	0.249	-

3.2 System boundary

Type of EPD: Cradle to gate - with options

The following life cycle stages were considered:

Product stage:

- A1 – Raw material supply
- A2 – Transport
- A3 – Manufacturing

Use stage:

- B6 – Operational energy use

End-of-life stage:

- C1 – De-construction, demolition
- C2 – Transport to waste processing

- C3 – Waste processing
- C4 – Disposal

Beyond system boundary:

- D – Reuse-, recovery- and recycling potential

Module D includes reuse, recovery and/or recycling potential, expressed as net impact and benefits, due to material recycling.

3.3 Estimates and assumptions

In the End-of-Life cycle phase, for all the material which can be recycled, a recycling scenario with a 99% collection rate was assumed.

3.4 Cut-off criteria

In the assessment, all available data from the production process are considered.

The cut-off criteria in the study follows the rules in *EN 15804+A2, Section 6.3.6*:

- 1% of renewable and non-renewable primary energy usage and 1% of the total mass input of that unit process
- Total neglected input flows per module (e.g. A1-A3) shall be a maximum of 5% of energy usage and mass

3.5 Background data

Modelling and environmental impact calculations are performed with the LCA software *GaBi* (version 9.2.1.68). Generic data and background data are based on life cycle inventory (LCI) data from *GaBi* Professional database and *Ecoinvent 3.6*.

3.6 Data quality

Specific data for the reference year 2019 of the product, packaging and transport mode and distances was collected from ASSA ABLOY and reviewed by *Ramboll LCA practitioners* for consistency. 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 2020* Professional database and *Ecoinvent 3.6*.

3.7 Period under review

The period under review is 2019.

3.8 Allocation

Allocation principles followed *EN 15804+A2*, Section 6.4. With regards to recycling or other recovery of waste, impacts are borne by the product until the waste reaches the end-of-waste state. Benefits and credits of recovery associated with these processes are outside the system boundaries.

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.

4. LCA: Scenarios and additional technical information

Characteristic product properties

Information on biogenic Carbon

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	0.00123	kg C

Reference service life not applicable (No impact from use stage)

End of life (C1-C4)

Name	Value	Unit
Collected separately electromechanical lock	0.246	kg
Collected as mixed construction waste electromechanical lock	0.00249	kg
Recycling of metals	0.245	kg
Landfilling of others	0.001	kg

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

Name	Value	Unit
Net amount of materials for recycling	0.181	kg
Whereof recycling steel	96.7	%
Whereof recycling stainless steel	3.0	%
Whereof recycling copper	0.3	%
Whereof recycling brass	0.0	%

No credit has been given in module D for the corresponding amount of secondary metal entering the product stage

5. LCA: Results

Disclaimer:

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.shtml>)

DESCRIPTION OF THE SYSTEM BOUNDARY (X = INCLUDED IN LCA; ND = 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	ND	ND	ND	ND	MNR	MNR	MNR	X	ND	X	X	X	X	X

RESULTS OF THE LCA - ENVIRONMENTAL IMPACT according to EN 15804+A2: 1 piece electromechanical lock cylinder

Core Indicator	Unit	A1-A3	B6	C1	C2	C3	C4	D
GWP-total	[kg CO ₂ -Eq.]	9.60E-1	0.00E+0	0.00E+0	9.54E-4	3.84E-2	1.16E-3	-4.34E-1
GWP-fossil	[kg CO ₂ -Eq.]	9.70E-1	0.00E+0	0.00E+0	9.48E-4	3.83E-2	2.83E-4	-4.33E-1
GWP-biogenic	[kg CO ₂ -Eq.]	-1.16E-2	0.00E+0	0.00E+0	-1.59E-6	-3.80E-6	8.72E-4	-2.28E-4
GWP-luluc	[kg CO ₂ -Eq.]	8.36E-4	0.00E+0	0.00E+0	7.67E-6	7.99E-5	8.13E-7	-1.34E-4
ODP	[kg CFC11-Eq.]	5.76E-9	0.00E+0	0.00E+0	1.74E-19	6.13E-9	-2.55E-19	-4.23E-16
AP	[mol H ⁺ -Eq.]	6.35E-3	0.00E+0	0.00E+0	1.09E-6	3.10E-4	6.82E-7	-1.60E-3
EP-freshwater	[kg PO ₄ -Eq.]	8.04E-5	0.00E+0	0.00E+0	2.89E-9	1.40E-6	1.94E-8	-2.60E-7
EP-marine	[kg N-Eq.]	8.71E-4	0.00E+0	0.00E+0	3.36E-7	1.35E-4	3.28E-7	-2.84E-4
EP-terrestrial	[mol N-Eq.]	9.49E-3	0.00E+0	0.00E+0	3.99E-6	1.48E-3	2.17E-6	-3.08E-3
POCP	[kg NMVOC-Eq.]	2.93E-3	0.00E+0	0.00E+0	9.07E-7	4.04E-4	8.60E-7	-9.23E-4
ADPE	[kg Sb-Eq.]	2.66E-5	0.00E+0	0.00E+0	7.66E-11	4.67E-8	9.90E-12	-2.39E-6
ADPF	[MJ]	1.12E+1	0.00E+0	0.00E+0	1.26E-2	5.23E-1	3.07E-3	-4.55E+0
WDP	[m ³ world-Eq deprived]	7.21E-1	0.00E+0	0.00E+0	9.24E-6	1.17E-3	-3.73E-6	-5.19E-1

Caption 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 electromechanical lock cylinder

Indicator	Unit	A1-A3	B6	C1	C2	C3	C4	D
PERE	[MJ]	5.81E+0	0.00E+0	0.00E+0	7.31E-4	1.04E-2	7.30E-6	-1.97E-1
PERM	[MJ]	4.56E-1	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
PERT	[MJ]	6.27E+0	0.00E+0	0.00E+0	7.31E-4	1.04E-2	7.30E-6	-1.97E-1
PENRE	[MJ]	1.12E+1	0.00E+0	0.00E+0	1.27E-2	5.24E-1	3.07E-3	-4.55E+0
PENRM	[MJ]	5.01E-2	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
PENRT	[MJ]	1.12E+1	0.00E+0	0.00E+0	1.27E-2	5.24E-1	3.07E-3	-4.55E+0
SM	[kg]	6.57E-2	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
RSF	[MJ]	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
NRSF	[MJ]	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
FW	[m ³]	2.62E-2	0.00E+0	0.00E+0	8.52E-7	3.37E-5	-7.04E-8	-1.22E-2

Caption 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 electromechanical lock cylinder

Indicator	Unit	A1-A3	B6	C1	C2	C3	C4	D
HWD	[kg]	1.52E-2	0.00E+0	0.00E+0	5.87E-10	5.81E-9	6.36E-11	-3.29E-7
NHWD	[kg]	6.04E-2	0.00E+0	0.00E+0	2.49E-3	9.31E-4	3.23E-3	-3.89E-2
RWD	[kg]	4.75E-5	0.00E+0	0.00E+0	2.34E-8	2.32E-7	-4.80E-8	-4.08E-6
CRU	[kg]	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
MFR	[kg]	0.00E+0	0.00E+0	0.00E+0	0.00E+0	2.45E-1	0.00E+0	0.00E+0
MER	[kg]	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
EEE	[MJ]	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
EET	[MJ]	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0

Caption 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; EEE = Exported thermal energy

RESULTS OF THE LCA – additional impact categories according to EN 15804+A2-optional: 1 piece electromechanical lock cylinder

Indicator	Unit	A1-A3	B6	C1	C2	C3	C4	D
PM	[Disease Incidence]	6.02E-8	0.00E+0	0.00E+0	7.26E-12	7.92E-9	6.92E-12	-2.20E-8
IR	[kBq U235-Eq.]	1.58E-2	0.00E+0	0.00E+0	3.45E-6	1.90E-3	-8.57E-6	-1.82E-3
ETP-fw	[CTUe]	9.16E+0	0.00E+0	0.00E+0	9.46E-3	3.43E-1	2.21E-3	9.13E-1
HTP-c	[CTUh]	2.49E-8	0.00E+0	0.00E+0	1.95E-13	1.04E-11	1.09E-13	-7.11E-9
HTP-nc	[CTUh]	3.65E-7	0.00E+0	0.00E+0	9.97E-12	3.10E-10	1.04E-11	-4.88E-9
SQP	[-]	8.22E+0	0.00E+0	0.00E+0	4.44E-3	9.79E-2	4.20E-4	-2.73E-1

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 IRP

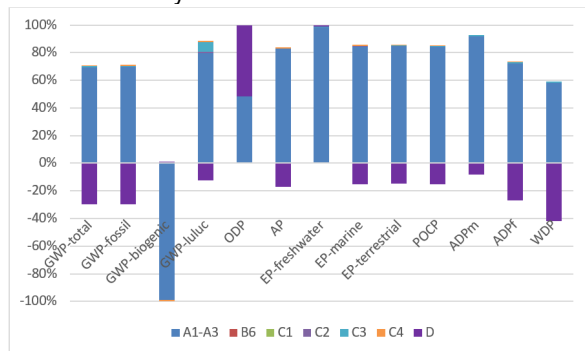
This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator.

Disclaimer 2 – for the indicators ADPE, ADPF, WDP, ETP-fw, HTP-c, HTP-nc, SQP

The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced 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.



Most of the environmental burden in the majority of the LCIA categories stem from the product stage A1-A3 and that a significant net benefit is present from module D. The cylinder housing, which is made of steel, constitutes 92% of the product by mass and most of the impact comes from this component of the product.

The presented results are the impact for ASSA ABLOY PULSE (round version), which is the product with the highest environmental impact. If the results would have been calculated for the oval version, the impacts related to the production of and waste management of the cylinder housing materials would have been lowered since it has less steel in the cylinder housing and therefore weighs less per declared unit.

The period under review is 2019.

7. Requisite evidence

Not applicable in the EPD.

8. References

DIN EN ISO 9001

ISO 9001:2015, Quality management systems - Requirements.

DIN EN ISO 14001

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

DIN EN ISO 14025

ISO 14025:2011, Environmental labels and declarations — Type III environmental declarations — Principles and procedures.

DIN EN 15684

EN 15684:2012, Building hardware - Mechatronic cylinders - Requirements and test methods.

DIN EN 15804

EN 15804:2019+A2, Sustainability of construction works — Environmental Product Declarations — Core rules for the product category of construction products.

OHSAS 18001

OHSAS 18001:2007, Occupational Health and Safety Assessment Series.

Ecoinvent database

ecoinvent center: Ecoinvent 3.6 database.

Finnish Accreditation Service certificate

ISO 9001:2015, FINAS accredited Certificate No. 54491-2009-AQ-FIN-FINAS.

Finnish Accreditation Service certificate

ISO 14001:2015, FINAS accredited Certificate No. 54494-2009-AE-FIN-FINAS.

Finnish Accreditation Service certificate

OHSAS 18001:2007 FINAS accredited Certificate No. 54495-2009-AHSO-FIN-FINAS.

GaBi software and databases

Sphera: GaBi 2020 Professional Database, <http://www.gabi-software.com/international/databases/gabi-databases/professional/>, ts 9.2.1.68 incl. databases 2020 Edition.

General instructions

Institut Bauen und Umwelt e.V.: General instructions for the EPD programme of Institut Bauen und Umwelt e.V. (General Instructions for the IBU EPD programme). Version 2.0.

PCR Part A

Institut Bauen und Umwelt e.V.: Product Category Rules for Building-Related Products and Services of Institut Bauen und Umwelt (IBU), Part A: Calculation Rules for the Life Cycle Assessment and Requirements on the Project Report according to EN 15804+A2:2019. July 2020.

PCR Part B

Institut Bauen und Umwelt e.V.: PCR Part B for Building hardware products, version 1.2.

Project report

Silfverstrand, Niclas; Jelse, Kristian; Palm, David. Project report: EPD of ASSA ABLOY PULSE. Ramboll Sweden on behalf of ASSA Abloy EMEA.

RED directive

Directive 2014/53/EU of the European Parliament and of the Council of 16 April 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of radio equipment and repealing Directive 1999/5/EC.

RoHS2 directive

Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

RoHS3 directive

Commission delegated directive (EU) 2015/863 of 31 March 2015 amending Annex II to Directive 2011/65/EU of the European Parliament and of the Council as regards the list of restricted substances.

**Publisher**

Institut Bauen und Umwelt e.V.
Panoramastr. 1
10178 Berlin
Germany

Tel +49 (0)30 3087748- 0
Fax +49 (0)30 3087748- 29
Mail info@ibu-epd.com
Web www.ibu-epd.com

**Programme holder**

Institut Bauen und Umwelt e.V.
Panoramastr 1
10178 Berlin
Germany

Tel +49 (0)30 - 3087748- 0
Fax +49 (0)30 - 3087748 - 29
Mail info@ibu-epd.com
Web www.ibu-epd.com

**Author of the Life Cycle**

Assessment
Ramboll Sweden
Vädursgatan 6
40227 Gothenburg
Sweden

Tel +46 (0)10 615 60 00
Fax +46 (0)10 615 20 00
Mail infosverige@ramboll.se
Web www.ramboll.com

ASSA ABLOY
Opening Solutions

Owner of the Declaration

ASSA ABLOY Opening Solutions
Sweden AB
Kungsgatan 71
63105 Eskilstuna
Sweden

Tel +46(0)771640640
Fax -
Mail helpdesk.se.openingsolutions@assaabloy.com
Web assaabloyopeningsolutions.se