ENVIRONMENTAL PRODUCT DECLARATION

ADAMS RITE

MS1850S MS® SINGLE POINT LOCK

The MS1850S Series MS® Deadlock utilizes a laminated stainless steel bolt, activated by a pivot mechanism to provide maximum security for a single leaf, narrow stile door.

Adams Rite

ASSA ABLOY

ASSA ABLOY is committed to providing products and services that are environmentally sound throughout the entire production process and the product lifecycle. Our unconditional aim is to make sustainability a central part of our business philosophy and culture, but even more important is the job of integrating sustainability into our business strategy. The employment of EPDs will help architects, designers and LEED-APs select environmentally preferable door openings. The Adams Rite MS1850S® Single Point Lock EPD provides detailed requirements with which to evaluate the environmental and human health impacts related to producing our door openings. ASSA ABLOY will continue our efforts to protect the environment and health of our customers/end users and will utilize the EPD as one means to document those efforts.

Institut Bauen und Umwelt e.V.

UL CERTIFIED ENVIRONMENTAL PRODUCT DECLARATION UL.COM/EPD

ENVIRONMENTAL PRODUCT DECLARATION

Adams Rite
ASSA ABLOY

ASSA ABLOY/ Adams Rite Manufacturing
MS1850S MS®

According to EN 15804 and ISO 14025
Dual Recognition by UL Environment and Institut Bauen und Umwelt e.V.

This declaration is an environmental product declaration (EPD) in accordance with ISO 14025. EPDs rely on Life Cycle Assessment (LCA) to provide information on a number of environmental impacts of products over their life cycle. Exclusions: EPDs do not indicate that any environmental or social performance benchmarks are met, and there may be impacts that they do not encompass. LCAs do not typically address the site-specific environmental impacts of raw material extraction, nor are they meant to assess human health toxicity. EPDs can complement but cannot replace tools and certifications that are designed to address these impacts and/or set performance thresholds – e.g. Type 1 certifications, health assessments and declarations, environmental impact assessments, etc. Accuracy of Results: EPDs regularly rely on estimations of impacts, and the level of accuracy in estimation of effect differs for any particular product line and reported impact. Comparability: EPDs are not comparative assertions and are either not comparable or have limited comparability when they cover different life cycle stages, are based on different product category rules or are missing relevant environmental impacts. EPDs from different programs may not be comparable.

CERTIFIED
ENVIRONMENTAL PRODUCT DECLARATION

PROGRAM OPERATOR	UL Environment
DECLARATION HOLDER	ASSA ABLOY / Adams Rite Manufacturing
ULE DECLARATION NUMBER	4786545067.123.1
IBU DECLRATION NUMBER	EPD-ASA-20150137-IBA1-EN
DECLARED PRODUCT	Single-point locks – MS1850S Series MS®
REFERENCE PCR	IBU: PCR Locks and fittings (mechanical & electromechanical locks & fittings), 07-2014

DATE OF ISSUE	April 18, 2015
PERIOD OF VALIDITY	5 years

CONTENTS OF THE DECLARATION	General information Product / Product description LCA calculation rules LCA scenarios and further technical information LCA results References
The PCR review was conducted by:	IBU – Institut Bauen und Umwelt e.V. PCR was approved by the Independent Expert Committee (SVA)
The CEN Norm EN 15804 serves as the core PCR. This declaration was independently verified in accordance with ISO 14025 by Underwriters Laboratories ☐ INTERNAL ☒ EXTERNAL	 Wade Stout
This life cycle assessment was independently verified in accordance with EN 15804 and the reference PCR by:	IBU – Institut Bauen und Umwelt e.V.

Environment

1. General Information

Adams Rite Manufacturing

Programme holder

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

Declaration number

EPD-ASA-20150137-IBA1-EN

This Declaration is based on the Product Category Rules:

IBU: PCR Locks and fittings (mechanical & electromechanical locks & fittings), 07-2014
(PCR tested and approved by the independent expert committee (SVA))

Issue date

18.05.2015

Valid to

17.05.2020

Prof. Dr.-Ing. Horst J. Bossenmayer
(President of Institut Bauen und Umwelt e.V.)

Dr.-Ing. Burkhart Lehmann
(Managing Director IBU)

MS1850S Series MS®

Owner of the Declaration

Hanchett Entry Systems, Inc.
10027 S. 51st Street, Suite 102
Phoenix, AZ 85044
USA

Declared product / Declared unit

The declaration represents 1 single point deadlock, with stainless steel, pivoting, high-security bolt.

Scope:

This declaration and its LCA study are relevant to Adams Rite MS1850S Series MS® Deadlock.

The primary manufacturing processes are made by external suppliers and the final manufacturing processes and assembly for all door locking components occur at the manufacturing factory in Shenzhen, China. 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 verifier appointed by SVA)

2. Product

2.1 Product description

Product name: Adams Rite MS1850S Series MS® Deadlock
Product characteristic: Single point deadlocks

The MS1850S Series MS® Deadlock utilizes a laminated stainless steel bolt, activated by a pivot mechanism to provide maximum security for a single leaf, narrow stile door. The nearly 3" long bolt activated by an uncomplicated pivot mechanism, has made this basic MS® Deadlock the standard of the narrow stile door industry.

2.2 Application

The Adams Rite MS1850S Deadlocks provide maximum security for a single leaf, narrow stile door, even a very tall and flexible one or an installation where the gap between the door and jamb is greater than it should be.

2.3 Technical Data

The table presents the technical properties of Adams Rite MS1850S Series MS® Deadlock:

Technical data

Name	Value	Unit
Dimensions		
1. Case, 31/32" backset (W x H x D)	1" x 6" x 1-5/8"	Inches
Case, 1-1/8" backset (W x H x D)	1" x 6" x 1-25/32"	Inches
Case, 1-1/2" backset (W x H x D)	1" x 6" x 2-1/4"	Inches
2. Bolt (W x H x D)	5/8" x 1-3/8" x 2-7/8"	Inches
3. Faceplate (W x H)	1" x 6-7/8"	Inches
Weight	1-1/2	lbs
Operating Temperature	-40 to +120	deg F

2.4 Placing on the market / Application rules

The products are subject to ANSI/BHMA marking. Relevant norms are: ANSI/BHMA A156.36-2010

2.5 Delivery status

Single point deadlocks are delivered as separate lock bodies in a box size 4-7/8" x 8-1/4" x 2-1/2".

2.6 Base materials / Ancillary materials

The average composition for Adams Rite MS1850S Deadlock as following:

Component	Percentage in mass (%)
Steel	99.82
Other	0.18
Total	**100.0**

2.7 Manufacture

The primary manufacturing processes occur by Tier 1 suppliers in Shenzhen, China and the final manufacturing processes for single point deadlock units occur in US.

The components come from processes like stamped steel, turning, zinc and steel casting.

2.8 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 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 is aware of their roles and responsibilities, providing appropriate training, supporting accountability and recognizing outstanding performance.

2.9 Product processing/Installation

Adams Rite MS1850S Deadlocks are distributed through and installed by trained installation technicians, such as locksmiths, carpenters etc. adhering to local/national standards and requirements.

2.10 Packaging

Adams Rite MS1850S Deadlocks are packaged in cardboard packaging. Packaging includes two paper sheets (installation instruction and drilling template) – all of which are fully recyclable.

Material	Value (%)
Cardboard/ Paper	100.0
Total	**100.0**

2.11 Condition of use

Annual inspection is recommended in order to guarantee correct functionality of the product and the door leaf. The inspection includes: checking, fixing screws to ensure they are properly tight, correct adjustments (closing speeds, force), compliance with local legal inspection standards and greasing all the moving parts of the arm.

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 use of the product.

2.13 Reference service life

The typical life time of Adams Rite MS1850S Deadlock is 20 years, dependent on frequency of use and environmental conditions.

2.14 Extraordinary effects

Water

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

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. The majority, by weight, of components is steel, aluminum alloy which can be recycled. The locks can be mechanically dissembled to separate the different materials. The plastic components can be used for energy recovery within a waste incineration process.

2.16 Disposal

The product can be mechanically dissembled to separate the different materials. 99.83% of the materials used are recyclable. The rest is disposed as a construction waste for landfill.

2.17 Further information

Adams Rite Manufacturing
10027 S. 51st Street, Suite 102
Phoenix, AZ 85044
USA
www.AdamsRite.com

3. LCA: Calculation rules

3.1 Declared Unit

The declaration refers to the functional unit of 1 piece of single point lock Adams Rite MS1850S Series as specified in Part B requirements on the EPD for PCR Locks and fittings: (mechanical & electromechanical locks & fittings).

Declared unit

Name	Value	Unit
Declared unit	1	piece of lock
Mass	2.40	kg
Conversion factor to 1 kg	0.42	-

3.2 System boundary

Type of the EPD: cradle to gate - with Options
The following life cycle phases 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

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.

- D - Declaration of all benefits or recycling potential from EOL and A5.

3.3 Estimates and assumptions

EoL:
In the End-of-Life phase, for all the materials which can be recycled, a recycling scenario with 100% collection rate was assumed.

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), thermal energy consumption 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 products, the GaBi 6 Software System for Life Cycle Engineering, developed by PE INTERNATIONAL AG, is used /GaBi 6 2013/. The GaBi-database contains consistent and documented datasets which are documented in the online
GaBi-documentation /GaBi 6 2013D/.
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/.
PE INTERNATIONAL 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 6 software database. The last revision of the used background data has taken place not longer than 10 years ago.

3.7 Period under review

The period under review is 2013/14 (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.

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).

Installation into the building (A5)

Name	Value	Unit
Output substances following waste treatment on site (Paper packaging)	0.091	kg

Reference service life

Name	Value	Unit
Reference service life	20	a

End of life (C1-C4)

Name	Value	Unit
Collected separately Steel	2.396	kg
Collected as mixed construction waste – construction waste for landfilling	0.004	kg
Recycling Steel	2.396	kg
Landfilling - Construction waste for	0.004	kg
landfilling		

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

Name	Value	Unit
Collected separately waste type Door closer (including packaging)	2.492	kg
Recycling Steel	96.17	%
Reuse Paper packaging (from A5)	3.66	%
Loss Construction waste for landfilling (no recycling potential)	0.17	%

5. LCA: Results

Results shown below were calculated using CML 2001 – 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	MND	MND	MND	X	MND	MND	X

RESULTS OF THE LCA - ENVIRONMENTAL IMPACT: One piece of single point lock Adams Rite MS1850S Series

Parameter	Parameter	Unit	A1 - A3	A4	A5	C2	D
GWP	Global warming potential	[kg CO_2-Eq.]	6.29E+00	1.44E-01	1.29E-01	5.04E-03	-3.38E+00
ODP	Depletion potential of the stratospheric ozone layer	[kg CFC11-Eq.]	2.24E-10	2.07E-12	5.91E-13	1.40E-12	8.29E-12
AP	Acidification potential of land and water	[kg SO_2-Eq.]	4.24E-02	6.61E-04	2.95E-05	2.37E-05	-1.29E-02
EP	Eutrophication potential	[kg $(PO_4)^{3-}$- Eq.]	4.06E-03	1.49E-04	5.14E-06	3.70E-06	-1.07E-03
POCP	Formation potential of tropospheric ozone photochemical oxidants	[kg Ethen Eq.]	3.80E-03	-2.09E-04	2.09E-06	-3.74E-06	-1.92E-03
ADPE	Abiotic depletion potential for non fossil resources	[kg Sb Eq.]	2.46E-06	5.66E-09	2.33E-09	4.12E-10	-2.16E-06
ADPF	Abiotic depletion potential for fossil resources	[MJ]	7.37E+01	1.99E+00	3.62E-02	7.14E-02	-3.18E+01

RESULTS OF THE LCA - RESOURCE USE: One piece of single point lock Adams Rite MS1850S Series

Parameter	Parameter	Unit	A1 - A3	A4	A5	C2	D
PERE	Renewable primary energy as energy carrier	[MJ]	5.34E+00	-	-	-	-
PERM	Renewable primary energy resources as material utilization	[MJ]	0.00E+00	-	-	-	-
PERT	Total use of renewable primary energy resources	[MJ]	5.34E+00	8.42E-02	3.38E-03	8.48E-03	5.46E-01
PENRE	Non renewable primary energy as energy carrier	[MJ]	7.70E+01	-	-	-	-
PENRM	Non renewable primary energy as material utilization	[MJ]	0.00E+00	-	-	-	-
PENRT	Total use of non renewable primary energy resources	[MJ]	7.70E+01	2.01E+00	4.25E-02	8.46E-02	-3.00E+01
SM	Use of secondary material	[kg]	7.28E-01	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
NRSF	Use of non renewable secondary fuels	[MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	Use of net fresh water	[m^3]	1.51E-02	7.10E-05	3.76E-04	1.76E-05	-1.91E-03

RESULTS OF THE LCA – OUTPUT FLOWS AND WASTE CATEGORIES: One piece of single point lock Adams Rite MS1850S Series

Parameter	Parameter	Unit	A1 - A3	A4	A5	C2	D
HWD	Hazardous waste disposed	[kg]	1.92E-03	9.48E-06	2.92E-06	5.09E-06	2.23E-03
NHWD	Non hazardous waste disposed	[kg]	7.54E-02	2.60E-04	3.25E-03	1.77E-05	-4.82E-02
RWD	Radioactive waste disposed	[kg]	1.31E-03	7.77E-06	2.48E-06	5.24E-06	7.29E-04
CRU	Components for re-use	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-
MFR	Materials for recycling	[kg]	0.00E+00	0.00E+00	9.13E-02	0.00E+00	-
MER	Materials for energy recovery	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-
EEE	Exported electrical energy	[MJ]	0.00E+00	0.00E+00	1.64E-01	0.00E+00	-
EET	Exported thermal energy	[MJ]	0.00E+00	0.00E+00	4.62E-01	0.00E+00	-

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 phase (modules A1-A3) contributes between 91% and 100% to the overall results for all the environmental impact assessment categories hereby considered. Within the production phase, the main contribution for all the impact categories is the production of steel, with app. 99%, mainly due to the energy consumption on this process. Steel accounts with app. 99% 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 phase, 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

IBU PCR Part A
IBU PCR Part A: Institut Bauen und Umwelt e.V., Berlin (pub.): Product Category Rules for Construction Products from the range of Environmental Product Declarations of Institut Bauen und Umwelt (IBU), Part A: Calculation Rules for the Life Cycle Assessment and Requirements on the Background Report. April 2013
www.bau-umwelt.de

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 Locks and fittings.
www.bau-umwelt.com

ANSI/BHMA A156.36
ANSI/BHMA A156.36-2010: Auxiliary Locks

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

EN 15804
EN 15804: 2012+A1:2014: Sustainability of construction works — Environmental Product Declarations — Core rules for the product category of construction products

GaBi 6 2013
GaBi 6 2013: Software-System and Database for Life Cycle Engineering. Copyright, TM. Stuttgart, Echterdingen, 1992-2013.

GaBi 6 2013D
GaBi 6 2013D: Documentation of GaBi 6: Software-System and Database for Life Cycle Engineering. Copyright, TM. Stuttgart, Echterdingen, 1992-2013.
http://documentation.gabi-software.com/

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	MND	MND	MND	X	MND	MND	X

RESULTS OF THE LCA - ENVIRONMENTAL IMPACT: One piece of single point lock Adams Rite MS1850S Series

Parameter	Parameter	Unit	A1 - A3	A4	A5	C2	D
GWP	Global warming potential	[kg CO_2-Eq.]	6.29E+00	1.44E-01	1.29E-01	5.04E-03	-3.38E+00
ODP	Depletion potential of the stratospheric ozone layer	[kg CFC11-Eq.]	2.39E-10	2.20E-12	6.29E-13	1.49E-12	8.77E-12
AP	Acidification potential of land and water	[kg SO_2-Eq.]	4.39E-02	8.60E-04	3.57E-05	2.73E-05	-1.30E-02
EP	Eutrophication potential	[kg N-eq.]	2.17E-03	6.05E-05	2.06E-06	1.69E-06	-7.83E-04
Smog	Ground-level smog formation potential	[kg O_3-eq.]	7.22E-01	1.76E-02	8.34E-04	4.51E-04	-1.93E-01
Resources	Resources	[MJ]	3.25E+00	2.85E-01	4.25E-03	8.61E-03	3.55E-01

RESULTS OF THE LCA - RESOURCE USE: One piece of single point lock Adams Rite MS1850S Series

Parameter	Parameter	Unit	A1 - A3	A4	A5	C2	D
PERE	Renewable primary energy as energy carrier	[MJ]	5.34E+00	-	-	-	-
PERM	Renewable primary energy resources as material utilization	[MJ]	0.00E+00	-	-	-	-
PERT	Total use of renewable primary energy resources	[MJ]	5.34E+00	8.42E-02	3.38E-03	8.48E-03	5.46E-01
PENRE	Non renewable primary energy as energy carrier	[MJ]	7.70E+01	-	-	-	-
PENRM	Non renewable primary energy as material utilization	[MJ]	0.00E+00	-	-	-	-
PENRT	Total use of non renewable primary energy resources	[MJ]	7.70E+01	2.01E+00	4.25E-02	8.46E-02	-3.00E+01
SM	Use of secondary material	[kg]	7.28E-01	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
NRSF	Use of non renewable secondary fuels	[MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	Use of net fresh water	[m³]	1.51E-02	7.10E-05	3.76E-04	1.76E-05	-1.91E-03

RESULTS OF THE LCA – OUTPUT FLOWS AND WASTE CATEGORIES: One piece of single point lock Adams Rite MS1850S Series

Parameter	Parameter	Unit	A1 - A3	A4	A5	C2	D
HWD	Hazardous waste disposed	[kg]	1.92E-03	9.48E-06	2.92E-06	5.09E-06	2.23E-03
NHWD	Non hazardous waste disposed	[kg]	7.54E-02	2.60E-04	3.25E-03	1.77E-05	-4.82E-02
RWD	Radioactive waste disposed	[kg]	1.31E-03	7.77E-06	2.48E-06	5.24E-06	7.29E-04
CRU	Components for re-use	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-
MFR	Materials for recycling	[kg]	0.00E+00	0.00E+00	9.13E-02	0.00E+00	-
MER	Materials for energy recovery	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-
EEE	Exported electrical energy	[MJ]	0.00E+00	0.00E+00	1.64E-01	0.00E+00	-
EET	Exported thermal energy	[MJ]	0.00E+00	0.00E+00	4.62E-01	0.00E+00	-

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@bau-umwelt.com
Web **www.bau-umwelt.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@bau-umwelt.com
Web **www.bau-umwelt.com**

Author of the Life Cycle Assessment
PE INTERNATIONAL AG
Hauptstraße 111-113
70771 Leinfelden-Echterdingen
Germany

Tel +49 (0)711 341817-0
Fax +49 (0)711 341817-25
Mail info@pe-international.com
Web **www.pe-international.com**

Owner of the Declaration
Adams Rite Manufacturing
10027 S. 51st Street, Suite 102
Phoenix, AZ 85044
USA

Tel 1-800-872-3267
Fax 1-800-232-7329
Mail support.adamsrite@assaabloy.com
Web **www.AdamsRite.com**
www.assaabloydss.com