ENVIRONMENTAL PRODUCT DECLARATION

as per ISO 14025 and EN 15804

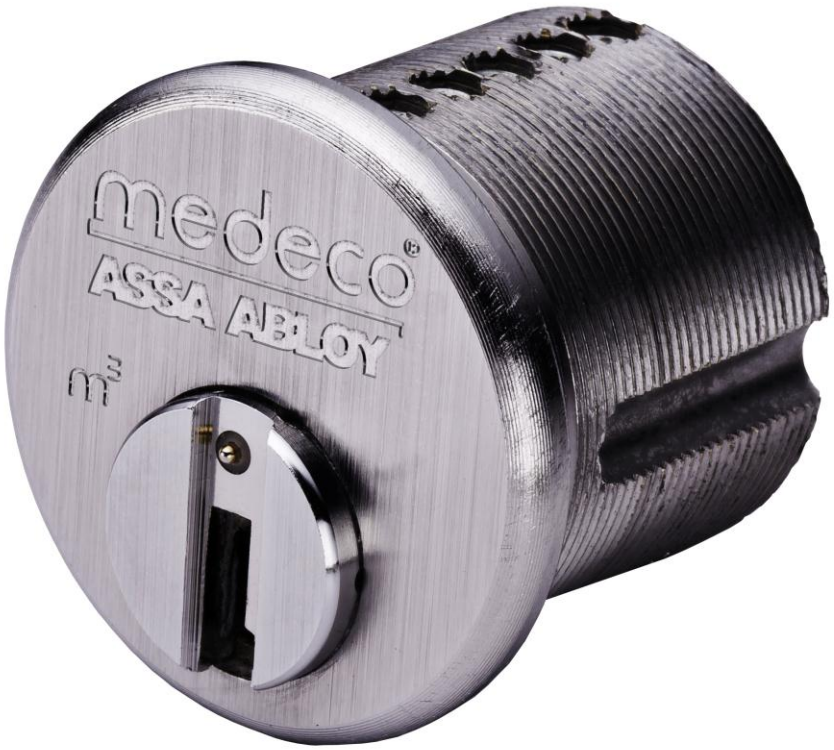
Owner of the Declaration	**ASSA ABLOY / Medeco**
Programme holder	Institut Bauen und Umwelt e.V. (IBU)
Publisher	Institut Bauen und Umwelt e.V. (IBU)
Declaration number	EPD-ASA-20150135-IBA1-EN
Issue date	18.05.2015
Valid to	17.05.2020

Electronic cylinders – Medeco^3 CLIQ Mortise Cylinder

ASSA ABLOY / Medeco

Institut Bauen und Umwelt e.V.

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



1. General Information

ASSA ABLOY / Medeco

Programme holder

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

Declaration number

EPD-ASA-20150135-IBA1-EN

This Declaration is based on the Product Category Rules:

Locks and 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)

Medeco^3 CLIQ Mortise Cylinder

Owner of the Declaration

Medeco
3625 Alleghany Drive
P.O.Box 3075
Salem, Virginia 24153-0330

Declared product / Declared unit

The declaration represents 1 electronic cylinder – Medeco^3 CLIQ Mortise cylinder.

Scope:

This declaration and its LCA study are relevant to Medeco^3 CLIQ Mortise cylinders.

The primary manufacturing processes are made by external suppliers and the final manufacturing processes and assembly occur at our manufacturing factory in Salem, Virginia. 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 according to ISO 14025
☐ internally ☒ externally

Dr. Wolfram Trinius
(Independent verifier appointed by SVA)

2. Product

2.1 Product description

Product name: Medeco^3 CLIQ Mortise cylinder

Product characteristic:
Electronic cylinder
Medeco^3 CLIQ Mortise cylinder utilizes local wireless communication between the lock and a communications hub to connect to an online electronic access control system.
• Non-volatile Memory Storing 750 Audit Events in the lock and 1,000 in the keycap
• Power supplied by the key, no hard wiring required. Powered by an easily replaceable CR2025 Battery with 20,000 cycle battery life.
• Fits standard Rim and Mortise Housing as well as other various platforms
• Available with RFID/PROX coil insert for dual use with HID compatible systems.
•Keys are electronically programmed to open only specific locks during a designated schedule.
•Audit information recorded in both the lock and key shows a time-and-date stamped record of every event, including authorized accesses and unauthorized attempts.
• Eliminates the cost of changing or rekeying locks.

2.2 Application

Medeco^3 CLIQ Mortise cylinder are available to fit nearly any application or hardware type for enhanced security and accountability. They are also ideal for any application requiring key control and physical security.

2.3 Technical Data

The table presents the technical properties of Medeco² CLIQ Mortise cylinder:

Technical data

Certification	UL 437 ANSI/BHMA 156.30
Non Volatile Memory Memory	750 Audit Events
Power	All power supplied by replaceable CR2025 batter in the key. No hard wiring
Encription	Encrypted Communications
Programming Software	local software client or web hosted options available
Cylinder Formats	KIK/KIL LFIC Padlocks Deadbolts
Construction	Solid brass
Installation	No wiring to the door

	Set screw pin chamber caps
Mechanical Compatibility	Medeco^3 Medeco^3 BiLevel
Weather Resistance	Rated of -20 degrees to 122 degrees Fahrenheit
Physical Security	Drill and Tamper Resistant
Door	Fits Narrow Stile Doors
Warranty	y year warranty
Finish	Available in several finish options

2.4 Placing on the market / Application rules

The standards that can be applied for Medeco^3 CLIQ Mortise cylinder are:

- UL 437 listed standard for safety for key locks and ability to resist physical attack.
- ANSI/BHMA A156.30-2003 covers high security cylinders and was developed by BHMA to provide specific guidance as to which products be considered as high Security
- The cylinders meet or exceed BHMA A156.30 criteria for strength and durability, key control and surreptitious entry resistance.

2.5 Delivery status

Medeco^3 CLIQ Mortise cylinders are delivered as separate lock case in a box size - 380 mm x 185 mm x 26 mm.

2.6 Base materials / Ancillary materials

The average composition for Medeco^3 CLIQ Mortise cylinder is as following:

Component	Percentage in mass (%)
Brass	94.48
Stainless Steel	2.34
Steel	2.52
Electronics	0.26
Electro mechanics	0.32
Plastics	0.05
Others	0.03
Total	**100.0**

2.7 Manufacture

The primary manufacturing processes are made by Tier 1 suppliers and the final manufacturing processes occur at in factory Salem, Virginia.

The electronics are produced in China and the mechanics in United States of America.

The components come from processes like stamped steel, turning, zinc and steel casting. Final assembly takes place in Salem, Virginia.

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 environmental 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.
• Any waste metals during machining are separated and recycled. The waste from the water-based painting process is delivered to waste treatment plant.

2.9 Product processing/Installation

Medeco^3 CLIQ Mortise cylinder are distributed through and installed by trained installation technicians, such as locksmiths, carpenters etc. adhering to local/national standards and requirements.

2.10 Packaging

Medeco^3 CLIQ Mortise cylinder are packed in a cardboard box with corrugated carton inlays. The packaging is fully recyclable. Separate lock case package with dimensions: 380 mm x 185 mm x 26 mm.

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

2.11 Condition of use

To maintain low friction and secure latching, annual maintenance <1g of grease on contact surfaces of latchbolt is recommended.
No cleaning. Cylinders can be replaced or upgraded without changing control unit or installation cable.

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

10 years, calculated based on 40,000 cycle endurance test.

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

2.16 Disposal

The product can be mechanically dissembled to separate the different materials. 99.97% of the materials used are recyclable. The rest is disposed as a construction waste for landfill.

2.17 Further information

Medeco
3625 Alleghany Drive
P.O.Box 3075
Salem, Virginia 24153-0330
www.medeco.com

3. LCA: Calculation rules

3.1 Declared Unit

The declaration refers to the functional unit of 1 piece of Medeco^3 CLIQ Mortise cylinder 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 electronic cylinder
Mass	0.156	kg
Conversion factor to 1 kg	6.409	-

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:

- A5 – Packaging waste processing

End-of-life stage:

- C2 – Transport to waste processing
- C3 – Waste processing for recycling and
- C4 – Disposal (landfill)

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 plastic
- Waste incineration of paper from packaging

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)	0.02	kg

Reference service life

Name	Value	Unit
Reference service life	10	a

End of life (C1-C4)

Name	Value	Unit
Collected separately Brass, stainless steel, steel, electronics, electro mechanics	0.1560	kg
Collected as mixed construction waste – construction waste for landfilling	0.0001	kg
Reuse Plastics	0.0001	kg
Recycling Brass, stainless steel, steel, electronics, electro mechanics	0.1559	kg
Landfilling - Construction waste for landfilling	0.0001	kg

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

Name	Value	Unit
Collected separately waste type (including packaging)	0.172	kg
Recycling Brass	85.75	%
Recycling Stainless steel	2.12	%
Recycling Steel	2.29	%
Recycling Electronics	0.23	%
Recycling Electro mechanics	0.29	%
Reuse Plastics	0.05	%
Reuse Paper packaging (from A5)	9.24	%
Loss Construction waste for landfilling (no recycling potential)	0.03	%

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	MND	X	MND	MND	MND	MND	MND	MND	MND	MND	X	X	X	X

RESULTS OF THE LCA - ENVIRONMENTAL IMPACT: One piece of Medeco^3 CLIQ Mortise cylinder specified

Parameter	Parameter	Unit	A1-A3	A5	C2	C3	C4	D
GWP	Global warming potential	[kg CO_2-Eq.]	8.45E+00	2.25E-02	4.09E-03	1.73E-04	7.63E-04	2.97E-01
ODP	Depletion potential of the stratospheric ozone layer	[kg CFC11-Eq.]	2.81E-09	1.03E-13	1.96E-14	1.18E-13	2.16E-15	3.12E-11
AP	Acidification potential of land and water	[kg SO_2-Eq.]	2.97E-02	5.13E-06	1.87E-05	8.13E-07	3.21E-07	1.35E-03
EP	Eutrophication potential	[kg $(PO_4)^{3-}$ Eq.]	1.69E-03	8.95E-07	4.27E-06	4.58E-08	6.86E-08	1.10E-04
POCP	Formation potential of tropospheric ozone photochemical oxidants	[kg Ethen Eq.]	1.83E-03	3.64E-07	-6.03E-06	4.84E-08	2.29E-08	9.69E-05
ADPE	Abiotic depletion potential for non fossil resources	[kg Sb Eq.]	2.36E-04	4.06E-10	1.54E-10	2.39E-11	1.89E-10	5.52E-04
ADPF	Abiotic depletion potential for fossil resources	[MJ]	9.73E+01	6.30E-03	5.64E-02	1.96E-03	5.34E-04	3.78E+00

RESULTS OF THE LCA - RESOURCE USE: One piece of Medeco^3 CLIQ Mortise cylinder specified

Parameter	Parameter	Unit	A1-A3	A5	C2	C3	C4	D
PERE	Renewable primary energy as energy carrier	[MJ]	1.01E+01	-	-	-	-	-
PERM	Renewable primary energy resources as material utilization	[MJ]	0.00E+00	-	-	-	-	-
PERT	Total use of renewable primary energy resources	[MJ]	1.01E+01	5.88E-04	2.22E-03	5.61E-04	6.69E-05	7.00E-01
PENRE	Non renewable primary energy as energy carrier	[MJ]	1.23E+02	-	-	-	-	-
PENRM	Non renewable primary energy as material utilization	[MJ]	0.00E+00	-	-	-	-	-
PENRT	Total use of non renewable primary energy resources	[MJ]	1.23E+02	7.39E-03	5.66E-02	3.07E-03	6.33E-04	4.39E+00
SM	Use of secondary material	[kg]	2.90E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RSF	Use of renewable secondary fuels	[MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NRSF	Use of non renewable secondary fuels	[MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	Use of net fresh water	[m³]	4.38E-02	6.55E-05	1.57E-06	1.39E-06	3.42E-06	4.21E-03

RESULTS OF THE LCA – OUTPUT FLOWS AND WASTE CATEGORIES: One piece of Medeco^3 CLIQ Mortise cylinder specified

Parameter	Parameter	Unit	A1-A3	A5	C2	C3	C4	D
HWD	Hazardous waste disposed	[kg]	9.10E-04	5.08E-07	1.29E-07	4.25E-07	1.01E-07	4.94E-04
NHWD	Non hazardous waste disposed	[kg]	1.72E-01	5.65E-04	7.12E-06	9.91E-07	1.41E-04	-9.41E-02
RWD	Radioactive waste disposed	[kg]	9.89E-03	4.32E-07	7.41E-08	4.42E-07	3.93E-08	2.45E-04
CRU	Components for re-use	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-
MFR	Materials for recycling	[kg]	0.00E+00	1.59E-02	0.00E+00	1.53E-01	0.00E+00	-
MER	Materials for energy recovery	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-
EEE	Exported electrical energy	[MJ]	0.00E+00	2.84E-02	0.00E+00	0.00E+00	3.82E-04	-
EET	Exported thermal energy	[MJ]	0.00E+00	8.03E-02	0.00E+00	0.00E+00	1.05E-03	-

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 and brass, with app. 96%, mainly due to the energy consumption on this process. Steel and brass accounts with app. 67% 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. For the components containing brass, the value of scrap input in the production process is higher than the value of scrap output from the recycling process. Therefore, there is an environmental burden instead of credit in the End-of-Life. 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

BHMA A.156.30 – 2012
BHMA A.156.30 – 2012: Builder's Hardware Manufacturers Association Inc. American National Standard for High Security Cylinders

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, Leinfelden-Echterdingen, 1992-2013.

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

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

UL437
UL437 Underwriters Laboratory Security rating - Key locks

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	MND	X	MND	MND	MND	MND	MND	MND	MND	MND	X	X	X	X

RESULTS OF THE LCA - ENVIRONMENTAL IMPACT: One piece of Medeco[3] CLIQ Mortise cylinder specified

Parameter	Parameter	Unit	A1-3	A5	C2	C3	C4	D
GWP	Global warming potential	[kg CO_2-Eq.]	8.45E+00	2.25E-02	4.09E-03	1.73E-04	7.63E-04	2.97E-01
ODP	Depletion potential of the stratospheric ozone layer	[kg CFC11-Eq.]	2.99E-09	1.09E-13	2.08E-14	1.26E-13	2.29E-15	3.20E-11
AP	Acidification potential of land and water	[kg SO_2-Eq.]	2.79E-02	6.21E-06	2.44E-05	7.70E-07	4.05E-07	1.28E-03
EP	Eutrophication potential	[kg N-eq.]	1.42E-03	3.58E-07	1.73E-06	3.28E-08	3.03E-08	5.65E-05
Smog	Ground-level smog formation potential	[kg O_3-eq.]	2.50E-01	1.45E-04	5.03E-04	6.97E-06	1.16E-05	1.18E-02
Resources	Resources	[MJ]	5.93E+00	7.39E-04	8.11E-03	1.40E-04	5.21E-05	4.31E-01

RESULTS OF THE LCA - RESOURCE USE: One piece of Medeco[3] CLIQ Mortise cylinder specified

Parameter	Parameter	Unit	A1-3	A5	C2	C3	C4	D
PERE	Renewable primary energy as energy carrier	[MJ]	1.01E+01	-	-	-	-	-
PERM	Renewable primary energy resources as material utilization	[MJ]	0.00E+00	-	-	-	-	-
PERT	Total use of renewable primary energy resources	[MJ]	1.01E+01	5.88E-04	2.22E-03	5.61E-04	6.69E-05	7.00E-01
PENRE	Non renewable primary energy as energy carrier	[MJ]	1.23E+02	-	-	-	-	-
PENRM	Non renewable primary energy as material utilization	[MJ]	0.00E+00	-	-	-	-	-
PENRT	Total use of non renewable primary energy resources	[MJ]	1.23E+02	7.39E-03	5.66E-02	3.07E-03	6.33E-04	4.39E+00
SM	Use of secondary material	[kg]	2.90E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RSF	Use of renewable secondary fuels	[MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NRSF	Use of non renewable secondary fuels	[MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	Use of net fresh water	[m³]	4.38E-02	6.55E-05	1.57E-06	1.39E-06	3.42E-06	4.21E-03

RESULTS OF THE LCA – OUTPUT FLOWS AND WASTE CATEGORIES: One piece of Medeco[3] CLIQ Mortise cylinder specified

Parameter	Parameter	Unit	A1-3	A5	C2	C3	C4	D
HWD	Hazardous waste disposed	[kg]	9.10E-04	5.08E-07	1.29E-07	4.25E-07	1.01E-07	4.94E-04
NHWD	Non hazardous waste disposed	[kg]	1.72E-01	5.65E-04	7.12E-06	9.91E-07	1.41E-04	-9.41E-02
RWD	Radioactive waste disposed	[kg]	9.89E-03	4.32E-07	7.41E-08	4.42E-07	3.93E-08	2.45E-04
CRU	Components for re-use	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-
MFR	Materials for recycling	[kg]	0.00E+00	1.59E-02	0.00E+00	1.53E-01	0.00E+00	-
MER	Materials for energy recovery	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-
EEE	Exported electrical energy	[MJ]	0.00E+00	2.84E-02	0.00E+00	0.00E+00	3.82E-04	-
EET	Exported thermal energy	[MJ]	0.00E+00	8.03E-02	0.00E+00	0.00E+00	1.05E-03	-

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
Medeco Assa Abloy
3625 Alleghany Drive
P.O.Box 3075
Salem, Virginia 24153-0330

Tel 1-888-633-3261
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Web **www.medeco.com**
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