ENVIRONMENTAL PRODUCT DECLARATION

as per ISO 14025 and EN 15804

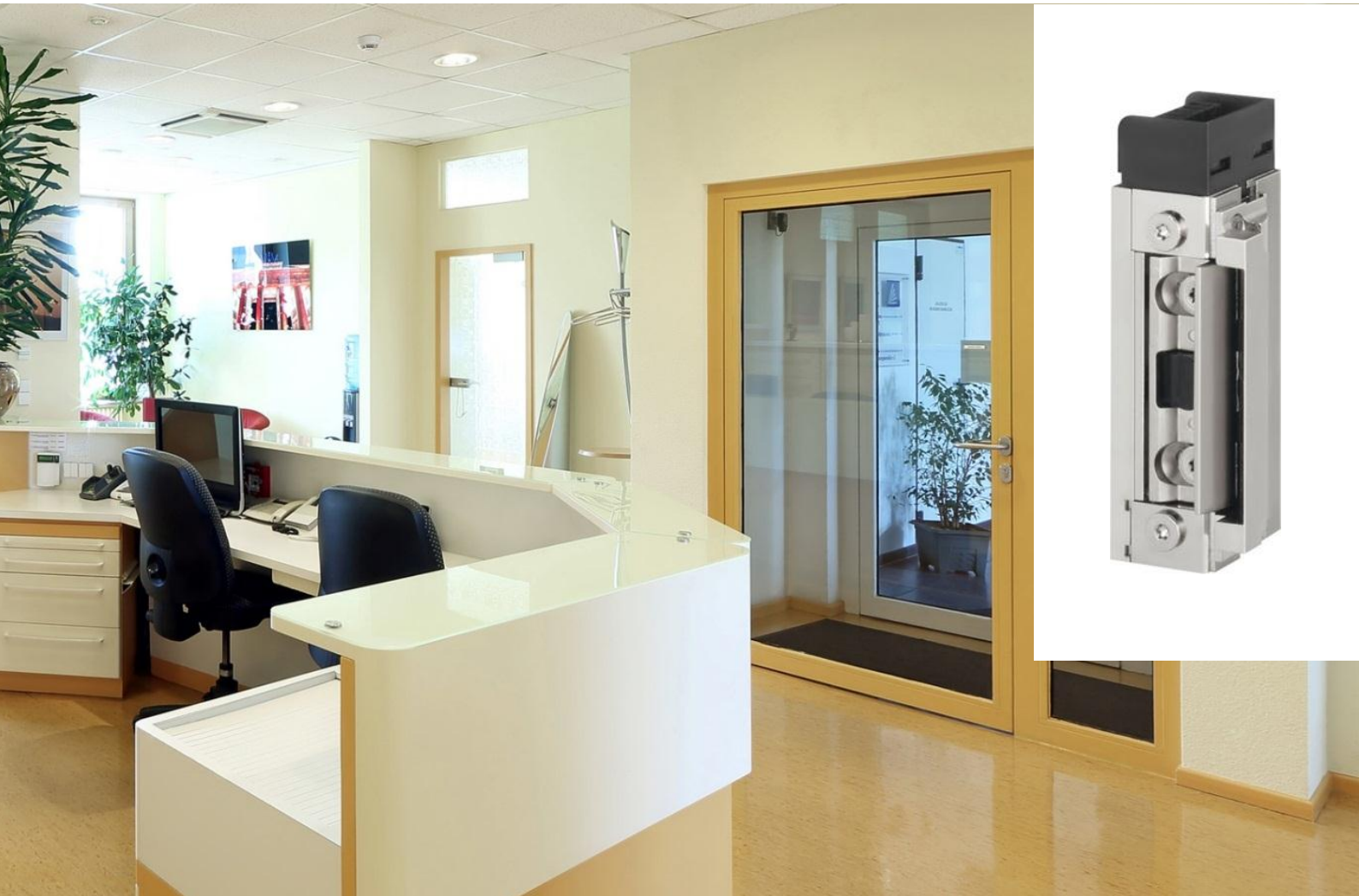
Owner of the Declaration	**ASSA ABLOY Sicherheitstechnik GmbH**
Programme holder	Institut Bauen und Umwelt e.V. (IBU)
Publisher	Institut Bauen und Umwelt e.V. (IBU)
Declaration number	EPD-ASA-20150094-IBA1-EN
Issue date	30.04.2015
Valid to	29.04.2020

Electric Strike - 143 Series

ASSA ABLOY Sicherheitstechnik GmbH

Institut Bauen und Umwelt e.V.

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



1. General Information

ASSA ABLOY Sicherheitstechnik GmbH

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

Declaration number
EPD-ASA-20150094-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
30.04.2015

Valid to
29.04.2020

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

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

Electric strike – 143 Series

Owner of the Declaration
ASSA ABLOY Sicherheitstechnik GmbH
Bildstockstrasse 20
72458 Albstadt, Germany

Declared product / Declared unit
The declaration represents 1 electric strike – 143 Series consisting of the following items:
- 143.20------Q34

Scope:
This declaration and its LCA study are relevant to the 143 Series electric strike.
The primary manufacturing processes, secondary manufacturing processes and assembly occur at the manufacturing factory in Albstadt, Germany. 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: 143 series

Product characteristic: Electric Strike
The 143 series is an electric strike, designed for fire door application and to accommodate mainly European style locks according EN 12209. All major components are completely encased within its 66mm x 20mm x 28mm steel housing. The monitoring contact is installed in the housing. The connector block can be flipped over to the other side. Multi-Voltage, high preload capability and small overall dimensions make this electric strike versatile. The operation mode is fail secure. The multi voltage range is 12-24 V AC/DC.

2.2 Application
143 Series electric strikes are ideal for a wide range of applications – mainly for commercial and public sectors:
- For fire rated or smoke resistant doors.

2.3 Technical Data
For the declared product, the following technical data in the delivery status must be provided with reference to the test standard.

Technical data

Parameter	Value	Unit
Static strength*	8,000	Newton
Endurance	500,000	Cycles
Dual voltage	12 - 24	V AC/DC

Note: * tested according factory standard.

2.4 Placing on the market / Application rules
The standards that can be applied for 143 Series electric strikes are:

- DIN EN 14846:2008

2.5 Delivery status

Electric strikes are delivered as in a box size - 93 mm x 35 mm x 28 mm containing installation instructions.

2.6 Base materials / Ancillary materials

The primary product components and/or materials must be indicated as a percentage mass to enable the user of the EPD to understand the composition of the product in delivery status.
The average composition for 143 Series is as following:

Component	Percentage in mass (%)
Zinc	2.7
Brass	0.1
Copper	0.5
Steel	78.4
Stainless Steel	2.8
Plastic	14.7
Electronics	0.8
Total	100.0

2.7 Manufacture

The primary manufacturing processes and the final manufacturing processes occur at our factory in Albstadt, Germany. The electric coil is produced in Albstadt. The components come from processes like stamped steel, plastic molding, milling, turning and zinc casting. Final assembly takes place in Albstadt.

The factory of Albstadt has a certification of Quality Management system in accordance with DIN EN ISO 9001:2008.

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, Greenhouse Gas Emissions, 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 to ensure Environmental Management program effectiveness.
• Code of Conduct covers human rights, labor practices and decent work. Management of ASSA ABLOY is aware of their environmental roles and responsibilities, providing appropriate training, supporting accountability and recognizing outstanding performance.
• The factory of Albstadt has certification of Environmental Management to DIN EN ISO 14001:2009 and Occupational Health and Safety to OHSAS 18001:2007.
• Manufacturing waste is minimised and treated appropriately to ensure minimal environmental impact.

2.9 Product processing / Installation

143 Series electric strikes are distributed through and installed by door manufacturers, trained installation technicians, such as locksmiths, carpenters etc. adhering to local/national standards and requirements.

2.10 Packaging

The packaging is not considered.

2.11 Condition of use

To maintain low friction and secure latching, annual maintenance <1g of grease on contact surfaces of electric strike is recommended.
No cleaning. Electric strikes 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

Approved for 500,000 cycles under normal working conditions, 12 years depending on cycle frequency. Through System 1 according DIN EN 14846:2008.

2.14 Extraordinary effects

Fire
Suitable for use in fire and smoke doors (EN 14846).

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, of components are brass and steel, which can be recycled. The locks can be mechanically disassembled to separate the different materials. 100% of the materials used are recyclable.

2.16 Disposal

All parts of product can be recycled.

2.17 Further information

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Bildstockstrasse 20
72458 Albstadt, Germany
Tel: +49 7431 123-0
www.assaabloy.de

3. LCA: Calculation rules

3.1 Declared Unit

The declaration refers to the functional unit of 1 piece of 143 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	0.794 Kg	1 piece of electric strike
Conversion factor to 1 kg	1.26	-

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

Use stage related to the operation of the building includes:

- B6 – Operational energy use (Energy consumption for sectional door operation)

End-of-life stage:

- C2 – Transport to waste processing
- C3 – Waste processing for recycling
- 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

Use Phase:
For the use phase, it is assumed that the electric strike is used in the European Union, thus an European electricity grid mix is considered within this stage.

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 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 from packaging
- Waste incineration of plastics
- Waste incineration of electronic wastes

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).

Reference service life

Name	Value	Unit
Reference service life (500,000 cycles)	12	a

Operational energy use (B6)

Name	Value	Unit
Electricity consumption	2.16	kWh
Days per year in use	300	d
Hours per day in on mode	0.3	h
Power consumption in on mode in W	2	W
Hours per day in off mode	23.7	h
Power consumption in off mode in W	0	W

End of life (C1-C4)

Name	Value	Unit
Collected separately Zinc, Brass, Copper, Steel, Stainless Steel, Plastic, Eletronics, Electro mechanics	0.794	kg
Reuse plastic parts	0.12	kg
Recycling Zinc, Brass, Copper, Steel, Stainless Steel, Electronics, Electro mechanics	0.676	kg

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

Name	Value	Unit
Collected separately waste type (without packaging)	0.794	kg
Recycling Zinc	2.7	%
Recycling Brass	0.1	%
Recycling Copper	0.5	%
Recycling Steel	78.5	%
Recycling Stainless steel	2.8	%
Recycling Electronics	0.8	%
Reuse plastic parts	14.8	%

5. LCA: Results

Results shown below were calculated using CML2001 – Apr. 2013 Methodology. The values for operational energy use (module B6) are presented per reference service life (12 years).

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

RESULTS OF THE LCA - ENVIRONMENTAL IMPACT: 1 piece of electric strike – 143 Series

Parameter	Parameter	Unit	A1-A3	B6	C2	C3	C4	D
GWP	Global warming potential	[kg CO2-Eq.]	4.5E+00	1.0E+00	1.9E-03	1.8E-04	2.8E-01	-1.8E+00
ODP	Depletion potential of the stratospheric ozone layer	[kg CFC11-Eq.]	9.6E-10	7.0E-10	9.1E-15	1.2E-13	8.3E-13	-6.7E-11
AP	Acidification potential of land and water	[kg SO2-Eq.]	1.8E-02	4.8E-03	8.7E-06	8.3E-07	7.1E-05	-7.9E-03
EP	Eutrophication potential	[kg (PO4)3-- Eq.]	1.4E-03	2.7E-04	2.0E-06	4.7E-08	5.4E-06	-5.9E-04
POCP	Formation potential of tropospheric ozone photochemical oxidants	[kg Ethen Eq.]	1.7E-03	2.9E-04	-2.8E-06	4.9E-08	3.4E-06	-9.4E-04
ADPE	Abiotic depletion potential for non fossil resources	[kg Sb Eq.]	2.5E-04	1.4E-07	7.2E-11	2.4E-11	1.8E-08	-2.3E-04
ADPF	Abiotic depletion potential for fossil resources	[MJ]	5.2E+01	1.2E+01	2.6E-02	2.0E-03	1.2E-01	-1.8E+01

RESULTS OF THE LCA - RESOURCE USE: 1 piece of electric strike – 143 Series

Parameter	Parameter	Unit	A1-A3	B6	C2	C3	C4	D
PERE	Renewable primary energy as energy carrier	[MJ]	5.8E+00	-	-	-	-	-
PERM	Renewable primary energy resources as material utilization	[MJ]	0.0E+00	-	-	-	-	-
PERT	Total use of renewable primary energy resources	[MJ]	5.8E+00	3.3E+00	1.0E-03	5.7E-04	8.6E-03	-4.6E-01
PENRE	Non renewable primary energy as energy carrier	[MJ]	6.2E+01	-	-	-	-	-
PENRM	Non renewable primary energy as material utilization	[MJ]	0.0E+00	-	-	-	-	-
PENRT	Total use of non renewable primary energy resources	[MJ]	6.2E+01	1.8E+01	2.6E-02	3.1E-03	1.3E-01	-1.8E+01
SM	Use of secondary material	[kg]	1.4E-01	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
RSF	Use of renewable secondary fuels	[MJ]	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
NRSF	Use of non renewable secondary fuels	[MJ]	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
FW	Use of net fresh water	[m³]	2.0E-02	8.2E-03	7.3E-07	1.4E-06	6.8E-04	-3.7E-03

RESULTS OF THE LCA – OUTPUT FLOWS AND WASTE CATEGORIES: 1 piece of electric strike – 143 Series

Parameter	Parameter	Unit	A1-A3	B6	C2	C3	C4	D
HWD	Hazardous waste disposed	[kg]	4.3E-03	2.5E-03	6.0E-08	4.3E-07	9.2E-06	5.6E-04
NHWD	Non hazardous waste disposed	[kg]	1.1E-01	5.9E-03	3.3E-06	1.0E-06	2.6E-02	-4.1E-02
RWD	Radioactive waste disposed	[kg]	4.0E-03	2.6E-03	3.5E-08	4.5E-07	5.2E-06	-4.8E-05
CRU	Components for re-use	[kg]	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	-
MFR	Materials for recycling	[kg]	0.0E+00	0.0E+00	0.0E+00	6.8E-01	0.0E+00	-
MER	Materials for energy recovery	[kg]	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	-
EEE	Exported electrical energy	[MJ]	0.0E+00	0.0E+00	0.0E+00	0.0E+00	5.3E-01	-
EET	Exported thermal energy	[MJ]	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.5E+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 58% and 100% 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 phase accounts for app. 100% - this impact category describes the reduction of the global amount of non-renewable raw materials, therefore, as expected, it is mainly related with the extraction of raw materials (A1). Within the production phase, the main contribution for all the impact categories is the production of steel, with app. 40%, mainly due to the energy consumption on this process. Steel accounts with app. 78% to the overall mass of the product, therefore, the impacts are in line with the mass composition of the product.

The environmental impacts for the transport (A2) have a negligible impact within this stage.

To reflect the use phase (module B6), the energy consumption was calculated for reference service life (12 years) and included and. With exception of ozone depletion potential (ODP) (42%), it contributes up to 21% for all the other impact categories considered. This is a result of 0.3 hours of operation per day in on mode per 365 days in a year.

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

DIN EN 14846
DIN EN 14846:2008-11: Building hardware - Locks and latches - Electromechanically operated locks and striking plates - Requirements and test methods

DIN EN ISO 9001
DIN EN ISO 9001:2008: Quality management systems - Requirements; Trilingual version EN ISO 9001:2008

DIN EN ISO 14001
DIN EN ISO 14001: Environmental management systems - Requirements with guidance for use (ISO 14001:2004 + Cor. 1:2009)

DIN EN 14846:2008
DIN EN 14846:2008-11: Building hardware - Locks and latches - Electromechanically operated locks and striking plates - Requirements and test methods; German version EN 14846:2008

EN 12209
EN 12209: Mechanically operated locks, latches and locking plates

EN 15804
EN 15804:2012-04: 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/

OHSAS 18001
OHSAS 18001: Arbeits- und Gesundheitsschutz-Managementsysteme - Leitfaden für die Implementierung von OHSAS 18001

UL 1034
UL 1034 Burglary-Resistant Electric Locking Mechanisms

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9. Annex

Results shown below were calculated using TRACI Methodology. The values for operational energy use (module B6) are presented per reference service life (12 years).

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

RESULTS OF THE LCA - ENVIRONMENTAL IMPACT: 1 piece of electric strike – 143 Series

Parameter	Parameter	Unit	A1-A3	B6	C2	C3	C4	D
GWP	Global warming potential	[kg CO_2-Eq.]	4.5E+00	1.0E+00	1.9E-03	1.8E-04	2.8E-01	-1.8E+00
ODP	Depletion potential of the stratospheric ozone layer	[kg CFC11-Eq.]	1.0E-09	7.5E-10	9.7E-15	1.3E-13	8.9E-13	-7.4E-11
AP	Acidification potential of land and water	[kg SO_2-Eq.]	1.8E-02	4.6E-03	1.1E-05	7.8E-07	8.3E-05	-7.9E-03
EP	Eutrophication potential	[kg N-eq.]	1.0E-03	1.9E-04	8.1E-07	3.3E-08	2.5E-06	-4.0E-04
Smog	Ground-level smog formation potential	[kg O_3-eq.]	2.2E-01	4.1E-02	2.4E-04	7.1E-06	6.6E-04	-1.1E-01
	Resources	[MJ]	3.5E+00	8.3E-01	3.8E-03	1.4E-04	1.2E-02	-3.3E-01

RESULTS OF THE LCA - RESOURCE USE: 1 piece of electric strike – 143 Series

Parameter	Parameter	Unit	A1-A3	B6	C2	C3	C4	D
PERE	Renewable primary energy as energy carrier	[MJ]	5.8E+00	-	-	-	-	-
PERM	Renewable primary energy resources as material utilization	[MJ]	0.0E+00	-	-	-	-	-
PERT	Total use of renewable primary energy resources	[MJ]	5.8E+00	3.3E+00	1.0E-03	5.7E-04	8.6E-03	-4.6E-01
PENRE	Non renewable primary energy as energy carrier	[MJ]	6.2E+01	-	-	-	-	-
PENRM	Non renewable primary energy as material utilization	[MJ]	0.0E+00	-	-	-	-	-
PENRT	Total use of non renewable primary energy resources	[MJ]	6.2E+01	1.8E+01	2.6E-02	3.1E-03	1.3E-01	-1.8E+01
SM	Use of secondary material	[kg]	1.4E-01	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
RSF	Use of renewable secondary fuels	[MJ]	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
NRSF	Use of non renewable secondary fuels	[MJ]	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
FW	Use of net fresh water	[m^3]	2.0E-02	8.2E-03	7.3E-07	1.4E-06	6.8E-04	-3.7E-03

RESULTS OF THE LCA – OUTPUT FLOWS AND WASTE CATEGORIES: 1 piece of electric strike – 143 Series

Parameter	Parameter	Unit	A1-A3	B6	C2	C3	C4	D
HWD	Hazardous waste disposed	[kg]	4.3E-03	2.5E-03	6.0E-08	4.3E-07	9.2E-06	5.6E-04
NHWD	Non hazardous waste disposed	[kg]	1.1E-01	5.9E-03	3.3E-06	1.0E-06	2.6E-02	-4.1E-02
RWD	Radioactive waste disposed	[kg]	4.0E-03	2.6E-03	3.5E-08	4.5E-07	5.2E-06	-4.8E-05
CRU	Components for re-use	[kg]	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	-
MFR	Materials for recycling	[kg]	0.0E+00	0.0E+00	0.0E+00	6.8E-01	0.0E+00	-
MER	Materials for energy recovery	[kg]	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	-
EEE	Exported electrical energy	[MJ]	0.0E+00	0.0E+00	0.0E+00	0.0E+00	5.3E-01	-
EET	Exported thermal energy	[MJ]	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.5E+00	-