ENVIRONMENTAL PRODUCT DECLARATION

as per ISO 14025 and EN 15804

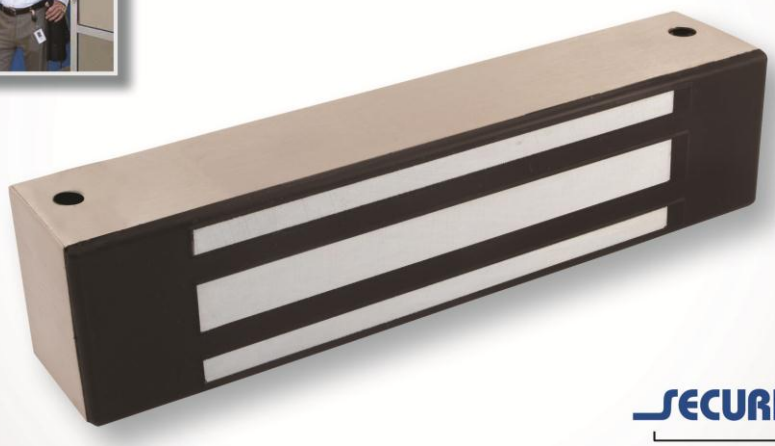
Owner of the Declaration	**ASSA ABLOY / Hanchett Entry Systems, Inc.**
Programme holder	Institut Bauen und Umwelt e.V. (IBU)
Publisher	Institut Bauen und Umwelt e.V. (IBU)
Declaration number	EPD-ASA-20150135-IBA1-EN
Issue date	18.05.2015
Valid to	17.05.2020

Magnets – Securitron M32 Magnalock

ASSA ABLOY / Securitron

Institut Bauen und Umwelt e.V.

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



SECURITRON

ASSA ABLOY

1. General Information

Hanchett Entry Systems, Inc

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)

Securitron M32 Magnalock

Owner of the Declaration

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

Declared product / Declared unit

The declaration represents 1 magnetic lock – Securitron M32 Magnalock consisting of the following items:

- Securitron M32 Magnetic Lock
- Strike
- Mounting Hardware

Scope:

This declaration and its LCA study are relevant to Securitron M32 Magnalock.

The primary manufacturing processes are made by external suppliers and the final manufacturing processes and assembly for occur at the manufacturing factory in Phoenix, Arizona, USA.

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: Securitron M32 Magnalock

Product characteristic: 600lb Magnetic Door Lock

- Magnetic lock providing 600lbs of holding force
- Fully sealed electronics are protected from water and dust
- Surface mounted with minimal tools
- Mounted using steel machine screws into finishing nuts
- Architectural brushed stainless steel finish (US32D/630)
- Ten feet [3.05m] of jacketed, stranded conductor
- Operates with 12 or 24V DC power
- UL Listed

2.2 Application

Securitron M32 Magnalocks are designed for:
The Securitron M32 Magnalock can be used indoors or outdoors to secure high traffic, glass, wood or metal doors.

2.3 Technical Data

The table presents the technical properties of Securitron M32 Magnalock:

Technical data

Parameter	Value	Unit
Holding Force	600	lbs.
Current Draw and Voltage	300mA at 12VDC	mA and VDC
Operating Temperature	-40 to +140	°F
Shipping Weight	6	lbs.

2.4 Placing on the market / Application rules

The standards that can be applied for Securitron M32 Magnalocks are:

- UL10C
- UL294
- ANSI/BHMA A156.23

2.5 Delivery status

Securitron M32 Magnalocks is delivered as in a box size - 380 mm x 185 mm x 26 mm

2.6 Base materials / Ancillary materials

The average composition for Securitron M32 Magnalocks is as following:

Component	Percentage in mass (%)
Copper	9.4
Steel	62.2
Stainless steel	7.6
Zinc	0.04
Electronics	0.8
Electro mechanics	0.2
Urethane	8.6
Others	11.1
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 Phoenix, Arizona.
The electronics and mechanics are produced in China, Mexico and USA. The components come from processes like stamped steel, turning, zinc and steel casting. Final assembly takes place in the United States.
The factory of Phoenix has a certification of Quality Management system in accordance with 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, 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

Securitron M32 Magnalocks are distributed through and installed by trained installation technicians, such as locksmiths, carpenters etc. adhering to local/national standards and requirements

2.10 Packaging

Securitron M32 Series Magnalocks 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
80% of carton is made from recycled material
100% of packaging paper are made from recycled material.

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

2.11 Condition of use

To maintain a strong bond, dust debris and corrosion should be removed by cleaning with rubbing alcohol or a silicon based cleaner and a clean cloth. Cleaning once per year is usually sufficient.

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 1,000,000 cycles under normal working conditions, 20 years depending on cycle frequency.

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 majority, of components is steel, iron and copper which can be recycled. The magnalocks can be mechanically dissembled to separate the different materials. The plastic components can be used for energy recovery in an incineration plant.
The product is possible to re-use during the reference service life and be moved to one door to another.

2.16 Disposal

The product can be mechanically dissembled to separate the different materials. 89% of the materials used are recyclable. The rest is disposed as a construction waste for landfill.

2.17 Further information

Hanchett Entry Systems, Inc.
10027 S. 51st St, Ste. 102
Phoenix, AZ 85044

Tel: 1-800-626-7590
http://www.securitron.com
www.ASSAABLOYdss.com

3. LCA: Calculation rules

3.1 Declared Unit

The declaration refers to the functional unit of 1 piece of Securitron M32 Magnalock 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	1 piece of magnet
Mass of product (without packaging)	2.45	kg
Conversion factor to 1 kg	0.408	-

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

The use stage:

- B2 - Maintenance (cleaning of the locks)

Use stage related to the operation of the building includes:

- B6 – Operational energy use

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 United States of America, thus an US 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 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 validations during the commission of the present study in order to ensure its quality of the present document and results. 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
- Waste incineration of electronic scrap

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)	0.07	kg

Maintenance (B2)

Name	Value	Unit
Water for cleaning	0.5	kg/a

Reference service life

Name	Value	Unit
Reference service life	20	a

Operational energy use (B6)

Name	Value	Unit
Electricity consumption	604	kWh
Days per year in use	365	d
Hours per day in on mode	23	h
Power consumption per mode in W	3.6	W

End of life (C1-C4)

Name	Value	Unit
Collected separately Copper, stainless steel, steel. zinc, electronics, electro mechanics, urethane	2.45	kg
Collected as mixed construction waste – construction waste for landfilling	0.27	kg
Reuse Plastics / Urethane	0.21	kg
Recycling Copper, stainless steel, steel. zinc, electronics, electro mechanics	2.24	kg
Landfilling - Construction waste for landfilling	0.21	kg

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

Name	Value	Unit
Collected separately waste type (including packaging)	2.25	kg
Recycling Copper	9.1	%
Recycling Stainless steel	7.4	%
Recycling Steel	60.6	%
Recycling Zinc	0.04	%
Recycling Electronics	0.8	%
Recycling Electro mechanics	0.2	%
Reuse Plastics / urethane	8.3	%
Reuse Paper packaging (from A5)	2.7	%
Loss Construction waste for landfilling (no recycling potential)	10.8	%

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	X	MND	MND	MND	X	MND	MND	X	X	X	X

RESULTS OF THE LCA - ENVIRONMENTAL IMPACT: One piece of Securitron M32 Magnalock

Parameter	Parameter	Unit	A1 - A3	A4	A5	B2	B6	C2	C3	C4	D
GWP	Global warming potential	[kg CO_2-Eq.]	1.96E+01	1.44E-01	9.63E-02	9.26E-02	4.06E+02	1.44E-01	3.26E-03	7.62E-01	-8.35E+00
ODP	Depletion potential of the stratospheric ozone layer	[kg CFC11-Eq.]	2.80E-09	6.88E-13	4.41E-13	3.66E-13	1.40E-07	6.88E-13	2.23E-12	2.29E-12	-7.94E-10
AP	Acidification potential of land and water	[kg SO_2-Eq.]	1.34E-01	6.57E-04	2.20E-05	1.28E-04	1.37E+00	6.57E-04	1.54E-05	1.97E-04	-5.93E-02
EP	Eutrophication potential	[kg $(PO_4)^{3-}$-Eq.]	9.34E-03	1.50E-04	3.83E-06	9.05E-05	7.33E-02	1.50E-04	8.66E-07	1.57E-05	-3.79E-03
POCP	Formation potential of tropospheric ozone photochemical oxidants	[kg Ethen Eq.]	8.89E-03	-2.12E-04	1.56E-06	7.53E-06	8.39E-02	-2.12E-04	9.14E-07	9.69E-06	-4.05E-03
ADPE	Abiotic depletion potential for non fossil resources	[kg Sb Eq.]	4.96E-03	5.41E-09	1.74E-09	2.50E-08	5.36E-05	5.41E-09	4.51E-10	5.30E-08	-3.45E-03
ADPF	Abiotic depletion potential for fossil resources	[MJ]	2.42E+02	1.98E+00	2.70E-02	1.53E-01	4.68E+03	1.98E+00	3.70E-02	3.26E-01	-9.37E+01

RESULTS OF THE LCA - RESOURCE USE: One piece of Securitron M32 Magnalock

Parameter	Parameter	Unit	A1 - A3	A4	A5	B2	B6	C2	C3	C4	D
PERE	Renewable primary energy as energy carrier	[MJ]	1.79E+01	-	-	-	-	-	-	-	-
PERM	Renewable primary energy resources as material utilization	[MJ]	0.00E+00	-	-	-	-	-	-	-	-
PERT	Total use of renewable primary energy resources	[MJ]	1.79E+01	7.81E-02	2.52E-03	1.22E-02	4.58E+02	7.81E-02	1.06E-02	2.44E-02	-4.22E+00
PENRE	Non renewable primary energy as energy carrier	[MJ]	2.63E+02	-	-	-	-	-	-	-	-
PENRM	Non renewable primary energy as material utilization	[MJ]	0.00E+00	-	-	-	-	-	-	-	-
PENRT	Total use of non renewable primary energy resources	[MJ]	2.63E+02	1.99E+00	3.16E-02	1.69E-01	5.93E+03	1.99E+00	5.80E-02	3.63E-01	-9.80E+01
SM	Use of secondary material	[kg]	2.65E-01	0.00E+00	0.00E+00	0.00E+00	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	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	0.00E+00	0.00E+00	0.00E+00
FW	Use of net fresh water	[m^3]	9.72E-02	5.51E-05	2.80E-04	6.41E-04	2.08E+00	5.51E-05	2.62E-05	1.89E-03	-3.22E-02

RESULTS OF THE LCA – OUTPUT FLOWS AND WASTE CATEGORIES: One piece of Securitron M32 Magnalock

Parameter	Parameter	Unit	A1 - A3	A4	A5	B2	B6	C2	C3	C4	D
HWD	Hazardous waste disposed	[kg]	8.51E-03	4.53E-06	2.18E-06	1.63E-05	4.62E-03	4.53E-06	8.04E-06	2.65E-05	1.24E-03
NHWD	Non hazardous waste disposed	[kg]	2.92E+00	2.50E-04	2.42E-03	3.01E-02	1.89E+00	2.50E-04	1.87E-05	7.23E-02	1.10E+00
RWD	Radioactive waste disposed	[kg]	8.40E-03	2.60E-06	1.85E-06	6.45E-06	4.88E-01	2.60E-06	8.36E-06	1.47E-05	-1.78E-03
CRU	Components for re-use	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-
MFR	Materials for recycling	[kg]	0.00E+00	0.00E+00	6.80E-02	0.00E+00	0.00E+00	0.00E+00	2.04E+00	0.00E+00	-
MER	Materials for energy recovery	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-
EEE	Exported electrical energy	[MJ]	0.00E+00	0.00E+00	1.22E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.44E+00	-
EET	Exported thermal energy	[MJ]	0.00E+00	0.00E+00	3.44E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.94E+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 2% and 11% 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. 99% - 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. 97%, mainly due to the energy consumption on this process. Steel accounts with app. 62% to the overall mass of the product,

therefore, the impacts are in line with the mass composition of the product. The environmental impacts for the transport (A2) have a negligible impact within this stage.

To reflect the use phase (module B6), the energy consumption was included and it has a major contribution for all the impact assessment categories considered - between 88% and 98%, with the exception of ADPE (1%). This is a result of 23 hours of operation in on mode per day and 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

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

ISO 14025
DIN EN 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, 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 14001
Environmental management systems - Requirements with guidance for use (ISO 14001:2004 + Cor. 1:2009)

ISO 9001:2008
ISO 9001:2008: Quality management systems - Requirements (ISO 9001:2008).

UL10C
Positive Pressure Fire Tests of Door Assemblies

UL294
Access Control System Units

ANSI/BHMA A156.23
This Standard establishes requirements for electromagnetic locks and includes cyclical, dynamic, operational, strength and finish tests

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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	X	MND	MND	MND	X	MND	MND	X	X	X	X

RESULTS OF THE LCA - ENVIRONMENTAL IMPACT: One piece of Securitron M32 Magnalock

Parameter	Parameter	Unit	A1-3	A4	A5	B2	B6	C2	C3	C4	D
GWP	Global warming potential	[kg CO_2-Eq.]	1.96E+01	1.44E-01	9.63E-02	9.26E-02	4.06E+02	1.44E-01	3.26E-03	7.62E-01	-8.35E+00
ODP	Depletion potential of the stratospheric ozone layer	[kg CFC11-Eq.]	2.99E-09	7.31E-13	4.69E-13	3.89E-13	1.49E-07	7.31E-13	2.37E-12	2.44E-12	-8.67E-10
AP	Acidification potential of land and water	[kg SO_2-Eq.]	1.31E-01	8.59E-04	2.66E-05	1.94E-04	1.28E+00	8.59E-04	1.46E-05	2.31E-04	-5.75E-02
EP	Eutrophication potential	[kg N-eq.]	1.24E-02	6.07E-05	1.53E-06	2.03E-04	6.30E-02	6.07E-05	6.20E-07	7.39E-06	-1.82E-03
Smog	Ground-level smog formation potential	[kg O_3-eq.]	1.60E+00	1.77E-02	6.21E-04	3.39E-03	1.09E+01	1.77E-02	1.32E-04	1.98E-03	-6.77E-01
Resources		[MJ]	1.74E+01	2.85E-01	3.17E-03	1.56E-02	2.76E+02	2.85E-01	2.64E-03	3.35E-02	-4.71E+00

RESULTS OF THE LCA - RESOURCE USE: One piece of Securitron M32 Magnalock

Parameter	Parameter	Unit	A1-3	A4	A5	B2	B6	C2	C3	C4	D
PERE	Renewable primary energy as energy carrier	[MJ]	1.79E+01	-	-	-	-	-	-	-	-
PERM	Renewable primary energy resources as material utilization	[MJ]	0.00E+00	-	-	-	-	-	-	-	-
PERT	Total use of renewable primary energy resources	[MJ]	1.79E+01	7.81E-02	2.52E-03	1.22E-02	4.58E+02	7.81E-02	1.06E-02	2.44E-02	-4.22E+00
PENRE	Non renewable primary energy as energy carrier	[MJ]	2.63E+02	-	-	-	-	-	-	-	-
PENRM	Non renewable primary energy as material utilization	[MJ]	0.00E+00	-	-	-	-	-	-	-	-
PENRT	Total use of non renewable primary energy resources	[MJ]	2.63E+02	1.99E+00	3.16E-02	1.69E-01	5.93E+03	1.99E+00	5.80E-02	3.63E-01	-9.80E+01
SM	Use of secondary material	[kg]	2.65E-01	0.00E+00	0.00E+00	0.00E+00	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	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	0.00E+00	0.00E+00	0.00E+00
FW	Use of net fresh water	[m^3]	9.72E-02	5.51E-05	2.80E-04	6.41E-04	2.08E+00	5.51E-05	2.62E-05	1.89E-03	-3.22E-02

RESULTS OF THE LCA – OUTPUT FLOWS AND WASTE CATEGORIES: One piece of Securitron M32 Magnalock

Parameter	Parameter	Unit	A1-3	A4	A5	B2	B6	C2	C3	C4	D
HWD	Hazardous waste disposed	[kg]	8.51E-03	4.53E-06	2.18E-06	1.63E-05	4.62E-03	4.53E-06	8.04E-06	2.65E-05	1.24E-03
NHWD	Non hazardous waste disposed	[kg]	2.92E+00	2.50E-04	2.42E-03	3.01E-02	1.89E+00	2.50E-04	1.87E-05	7.23E-02	-1.10E+00
RWD	Radioactive waste disposed	[kg]	8.40E-03	2.60E-06	1.85E-06	6.45E-06	4.88E-01	2.60E-06	8.36E-06	1.47E-05	-1.78E-03
CRU	Components for re-use	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-
MFR	Materials for recycling	[kg]	0.00E+00	0.00E+00	6.80E-02	0.00E+00	0.00E+00	0.00E+00	2.04E+00	0.00E+00	-
MER	Materials for energy recovery	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-
EEE	Exported electrical energy	[MJ]	0.00E+00	0.00E+00	1.22E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.44E+00	-
EET	Exported thermal energy	[MJ]	0.00E+00	0.00E+00	3.44E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.94E+00	-

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