

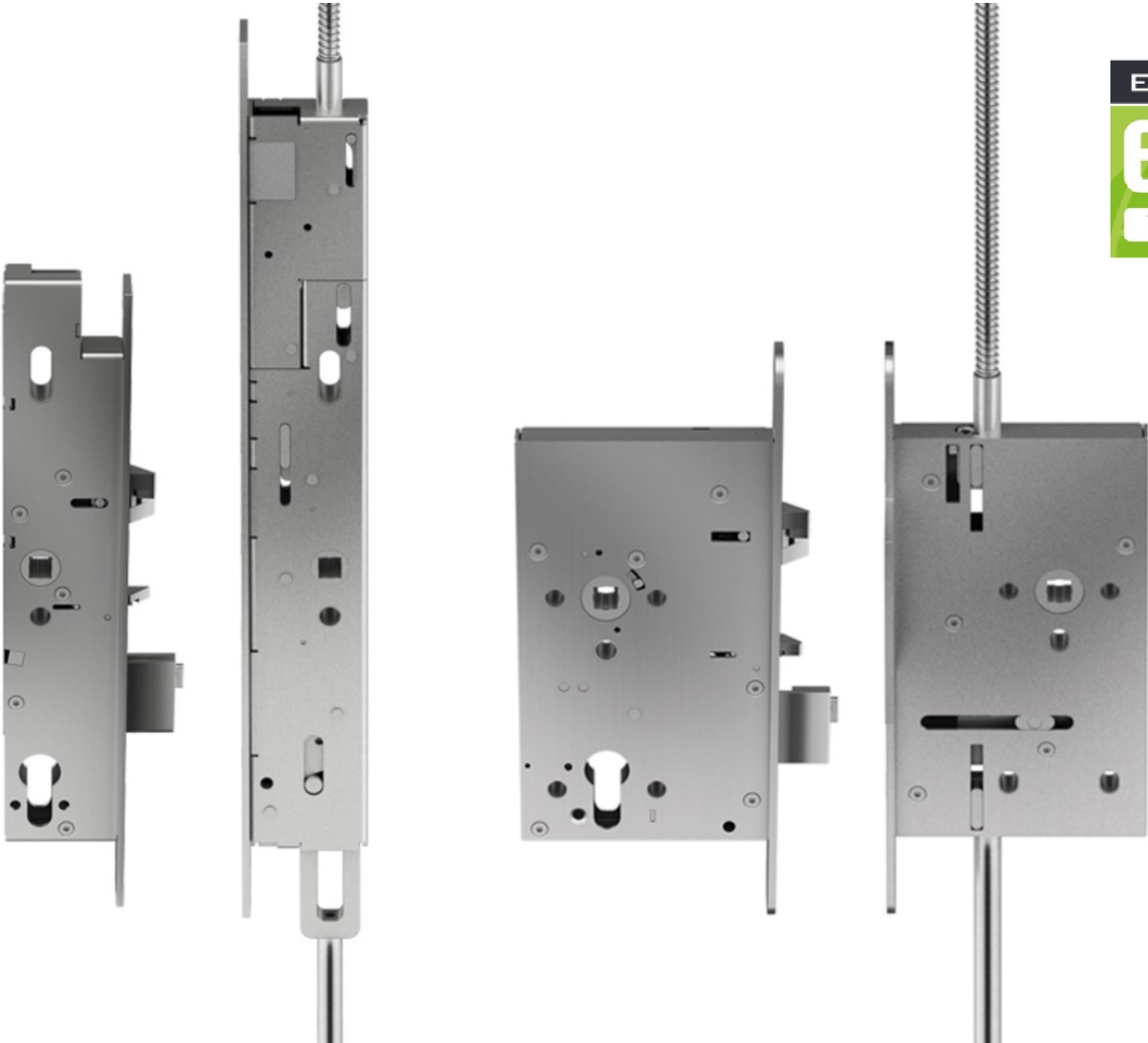
ENVIRONMENTAL PRODUCT DECLARATION

as per ISO 14025 and EN 15804+A2


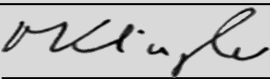

Owner of the Declaration	dormakaba International Holding GmbH
Publisher	Institut Bauen und Umwelt e.V. (IBU)
Programme holder	Institut Bauen und Umwelt e.V. (IBU)
Declaration number	EPD-DOR-20240263-CBA1-EN
Issue date	20.12.2024
Valid to	19.12.2029

Solenoid Locks SVx 6000
dormakaba

www.ibu-epd.com | <https://epd-online.com>



General Information

dormakaba	Solenoid Locks SVx 6000								
Programme holder IBU – Institut Bauen und Umwelt e.V. Hegelplatz 1 10117 Berlin Germany	Owner of the declaration dormakaba International Holding GmbH DORMA Platz 1 58256 Ennepetal Germany								
Declaration number EPD-DOR-20240263-CBA1-EN	Declared product / declared unit 1 piece of the product: Solenoid Lock SVx 6000, consisting of the following items: <ul style="list-style-type: none">• Solenoid lock• Product packaging								
This declaration is based on the product category rules: Building Hardware products, 01.08.2021 (PCR checked and approved by the SVR)	Scope: This Environmental Product Declaration refers to a specific solenoid lock (SVA 6000) manufactured by dormakaba. This EPD is also representing the variants of SVP 6000 locks. The production site is located in Ennepetal (Germany). Green electricity is being used at this production site. The data represents the year 2022. The owner of the declaration shall be liable for the underlying information and evidence; the IBU shall not be liable with respect to manufacturer information, life cycle assessment data and evidences. The EPD was created according to the specifications of EN 15804+A2. In the following, the standard will be simplified as <i>EN 15804</i> .								
Issue date 20.12.2024	Verification <table><tr><td colspan="2">The standard EN 15804 serves as the core PCR</td></tr><tr><td colspan="2">Independent verification of the declaration and data according to ISO 14025:2011</td></tr><tr><td><input type="checkbox"/></td><td>internally</td></tr><tr><td><input checked="" type="checkbox"/></td><td>externally</td></tr></table>	The standard EN 15804 serves as the core PCR		Independent verification of the declaration and data according to ISO 14025:2011		<input type="checkbox"/>	internally	<input checked="" type="checkbox"/>	externally
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<input checked="" type="checkbox"/>	externally								
 Dipl.-Ing. Hans Peters (Chairman of Institut Bauen und Umwelt e.V.)	 Matthias Klingler, (Independent verifier)								
 Florian Pronold (Managing Director Institut Bauen und Umwelt e.V.)									

Product

Product description/Product definition

Self-locking emergency escape locks automatically lock doors after each closing whether mechanically or motor-controlled. The emergency escape function allows the door to be opened at any time in the exit direction by simply operating the lever handle. Mechanical opening from the outside remains possible at any time by unlocking the profile cylinder insert.

SVP 6000 microswitch-monitored emergency-escape lock with automatic locking action and with divided follower, mechanical sequential control and signalling through integrated monitoring contact, automatically locks the doors after each closing cycle. The automatic deadbolt throw of 20 mm ensures that the door is always locked in accordance with property insurance requirements. Meanwhile, thanks to the added one-sided emergency escape function, the door can be opened at any time in the exit direction by simply operating the lever handle or it can be opened from the outside through a key or engageable external lever.

SVP 6000

- An electrically-monitored panic lock with a split follower for the electrical engagement/disengagement the outside handle and manipulation-protected detectors

SVA 6000

- Electrically monitored emergency-escape lock with split follower for the electrical engagement/disengagement of the outside lever handle
- Status message for trip latch, bolt, cylinder locking and lever handle

For the use and application of the product the respective national provisions at the place of use apply. The standards which can be applied are the following:

- EN 179
- EN 1125
- EN 12209
- EN 14846
- Restriction of Hazardous Substances (RoHS)

Application

Solenoid locks are suitable for use in emergency exits and escape routes in compliance with *EN 179* or on panic doors with a horizontal push bar in compliance with *EN 1125*.

Technical Data

The solenoid locks have following technical properties:

Name	Value	Unit
Supply voltage	12 or 24	V DC stabilized
Temperature range	- 25 to +70	°C
Relative humidity up to 95%	at 55	°C
Protection category	54	IP
Rear backset	33	mm
Distance between door handle and locking cylinder (for profile cylinder)	72	mm
Distance between door handle and locking cylinder (for round cylinder)	74	mm
Bolt throw	20	mm

Performance data of the product with respect to its characteristics in accordance with the relevant technical provision which can be applied are mentioned above.

Base materials/Ancillary materials

The major material composition including the packaging of the product is listed below:

Name	Value	Unit
Steel	66	%
Stainless steel	16	%
Paper	15	%
Plastics	2	%
Electronics	1	%

The products include partial articles which contain substances listed in the Candidate List of REACH Regulation 1907/2006/EC (date: 23.01.2024) exceeding 0.1 percentage by mass: yes

- Lead (Pb): 7439-92-1 (CAS-No.) is included in some of the alloys used. The concentration of lead in each individual alloy does not exceed 4.0% (by mass).

The Candidate List can be found on the ECHA website address: <https://echa.europa.eu/de/home>.

Reference service life

The reference service life of the Solenoid Locks SVx 6000 series amounts to 20 years and depends on the application and frequency of use. For repairs or renewals, suitable spare parts are available. The locks are tested and certified to *EN 14846*, meaning they are designed to withstand a minimum of 200.000 cycles.

LCA: Calculation rules

Declared Unit

The declared unit is 1 piece of the product including packaging: SVx 6000.

Name	Value	Unit
Declared unit	1	piece/product
Mass of the declared product without packaging	0.99	kg
Mass of packaging	0,05	kg
Total mass of the declared product	1,04	kg

System boundary

The type of EPD is according to *EN 15804*: "cradle to gate with options, modules C1–C4, and module D". The following modules are declared:

A1-A3, B6, C1-C4, D and additional modules: A4 + A5

Production - Module A1-A3

The product stage includes:

- A1, raw material extraction, processing and mechanical treatments, processing of secondary material input (e.g. recycling processes),
- A2, transport to the manufacturer,

— A3, manufacturing and assembly including provision of all materials, products and energy, as well as waste processing up to the end-of waste state.

Construction stage - Modules A4-A5

The construction process stage includes:

- A4, transport to the building site;
- A5, installation into the building; including provision of all materials, products and energy, as well as waste processing up to the end-of waste state or disposal of final residues during the construction process stage.

Use stage - Module B6

The use stage related to the operation of the building includes:

- B6, operational energy use

End-of-life stage— Modules C1-C4 and D

The end-of-life stage includes:

- C1, de-construction, demolition;
- C2, transport to waste processing;

- C3, waste processing for reuse, recovery and/or recycling;
- C4, disposal; including provision and all transport, provision of all materials, products and related energy and water use.

Module D (Benefits and loads beyond the system boundary) includes:

- D, recycling potentials, expressed as net impacts and benefits.

Geographic Representativeness

Land or region, in which the declared product system is manufactured, used or handled at the end of the product's lifespan: Global

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. GaBi, SP40.

LCA: Scenarios and additional technical information

Characteristic product properties of biogenic carbon

Note: 1 kg of biogenic carbon is equivalent to 44/12 kg of CO₂

Name	Value	Unit
Biogenic carbon content in product	0.04	kg C
Biogenic carbon content in accompanying packaging	0.02	kg C

Note: 1 kg of biogenic carbon is equivalent to 44/12 kg of CO₂.

Transport to the building site (A4)

Name	Value	Unit
Litres of fuel (per 1kg)	0.00276	l/100km
Transport distance via truck (for scaling)	100	km
Capacity utilisation (including empty runs)	55	%
Transport distance via ship	15000	km

The product is transported via truck. The product is stored in the dormakaba logistic centre in Germany. The main distribution region is Europe and Asia. In order to allow scaling to a specific point of installation 100 km are declared as well.

Installation into the building (A5)

Name	Value	Unit
Waste packaging (paper)	0.045	kg

Reference service life

Name	Value	Unit
Life Span according to the manufacturer	20	a

Operational energy use (B6)

Name	Value	Unit
Energy consumption for 1 year	7.59	kWh
Active state (hours/day)	0.25	hrs
Idle state (hours/day)	23.75	hrs
Electrical power active state	2.88	W
Electrical power in idle state	1.2	W

End of life (C1-C4)

C1: The product dismantling from the building is done manually without environmental burden.

C2: Transport to waste management is 50 km.

Name	Value	Unit
Collected separately waste type	0.99	kg
Recycling	0.97	kg
Energy recovery	0.02	kg

The product is disassembled in a recycling process. Material recycling is then assumed for the metals. The plastic components are assumed to be incinerated with energy recovery.

Region for the End of Life is: Europe.

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

Name	Value	Unit
Recycling	100	%

The collection rate is 100 %.

LCA: Results

EF version: 3.0

DESCRIPTION OF THE SYSTEM BOUNDARY (X = INCLUDED IN LCA; MND = MODULE OR INDICATOR NOT DECLARED; MNR = MODULE NOT RELEVANT)

Product stage			Construction process stage		Use stage							End of life stage				Benefits and loads beyond the system boundaries
Raw material supply	Transport	Manufacturing	Transport from the gate to the site	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
X	X	X	X	X	MND	MND	MNR	MNR	MNR	X	MND	X	X	X	X	X

RESULTS OF THE LCA - ENVIRONMENTAL IMPACT according to EN 15804+A2: 1 piece Solenoid Lock SVX 6000

Parameter	Unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
GWP-total	kg CO ₂ eq	6.76E+00	9E-03	6.5E-02	6.14E+01	0	4E-03	2.33E-01	0	-2.29E+00
GWP-fossil	kg CO ₂ eq	6.98E+00	9E-03	2E-03	6.11E+01	0	4E-03	5.2E-02	0	-2.29E+00
GWP-biogenic	kg CO ₂ eq	-2.22E-01	4E-04	6.3E-02	2.04E-01	0	1.79E-04	1.81E-01	0	2E-03
GWP-luluc	kg CO ₂ eq	5.34E-03	2.06E-07	1.06E-06	8.9E-02	0	9.21E-08	4.55E-06	0	-2E-03
ODP	kg CFC11 eq	7.47E-11	9.14E-19	1.16E-17	1.34E-12	0	4.08E-19	4.72E-17	0	-1.41E-15
AP	mol H ⁺ eq	4.26E-02	8.67E-06	1.81E-05	1.35E-01	0	3.87E-06	3.51E-05	0	-1.9E-02
EP-freshwater	kg P eq	1.67E-05	1.85E-09	2.27E-09	1.63E-04	0	8.28E-10	7.29E-09	0	-9.89E-07
EP-marine	kg N eq	6.16E-03	2.76E-06	6.52E-06	3E-02	0	1.23E-06	1.05E-05	0	-3E-03
EP-terrestrial	mol N eq	6.71E-02	3.07E-05	8.13E-05	3.15E-01	0	1.37E-05	1.64E-04	0	-2.7E-02
POCP	kg NMVOC eq	1.84E-02	7.8E-06	1.73E-05	8.2E-02	0	3.48E-06	2.87E-05	0	-8E-03
ADPE	kg Sb eq	6.98E-04	2.6E-10	1.84E-10	1.77E-05	0	1.16E-10	6.97E-10	0	-6.82E-04
ADPF	MJ	9.21E+01	1.23E-01	2E-02	1.07E+03	0	5.5E-02	6.2E-02	0	-2.37E+01
WDP	m ³ world eq deprived	1.17E+00	1.7E-05	8E-03	1.33E+01	0	7.58E-06	2.4E-02	0	-3.96E-01

GWP = Global warming potential; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential of land and water; EP = Eutrophication potential; POCP = Formation potential of tropospheric ozone photochemical oxidants; ADPE = Abiotic depletion potential for non-fossil resources; ADPF = Abiotic depletion potential for fossil resources; WDP = Water (user) deprivation potential

RESULTS OF THE LCA - INDICATORS TO DESCRIBE RESOURCE USE according to EN 15804+A2: 1 piece Solenoid Lock SVX 6000

Parameter	Unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
PERE	MJ	2.04E+01	3.87E-04	5.5E-01	4.76E+02	0	1.73E-04	1.23E+00	0	-2.14E+00
PERM	MJ	1.76E+00	0	-5.46E-01	0	0	0	-1.21E+00	0	0
PERT	MJ	2.22E+01	3.87E-04	4E-03	4.76E+02	0	1.73E-04	1.3E-02	0	-2.14E+00
PENRE	MJ	9.21E+01	1.23E-01	2E-02	1.07E+03	0	5.5E-02	6.79E-01	0	-2.38E+01
PENRM	MJ	6.17E-01	0	0	0	0	0	-6.17E-01	0	0
PENRT	MJ	9.27E+01	1.23E-01	2E-02	1.07E+03	0	5.5E-02	6.2E-02	0	-2.38E+01
SM	kg	3.98E-01	0	0	0	0	0	0	0	0
RSF	MJ	0	0	0	0	0	0	0	0	0
NRSF	MJ	0	0	0	0	0	0	0	0	0
FW	m ³	4.1E-02	6.95E-07	1.88E-04	5.51E-01	0	3.1E-07	5.66E-04	0	-1.5E-02

PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy resources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water

RESULTS OF THE LCA - WASTE CATEGORIES AND OUTPUT FLOWS according to EN 15804+A2: 1 piece Solenoid Lock SVX 6000

Parameter	Unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
HWD	kg	7.36E-07	1.19E-11	3E-11	4.45E-07	0	5.33E-12	1.15E-10	0	-6.57E-08
NHWD	kg	1.97E-01	1.26E-05	2E-03	7.62E-01	0	5.61E-06	6E-03	0	-8.7E-02
RWD	kg	3.4E-03	1.32E-07	1.07E-06	1.63E-01	0	5.89E-08	3.11E-06	0	-2.23E-04
CRU	kg	0	0	0	0	0	0	0	0	0
MFR	kg	0	0	0	0	0	0	8.05E-01	0	0
MER	kg	0	0	0	0	0	0	0	0	0
EEE	MJ	0	0	9.8E-02	0	0	0	3.64E-01	0	0
EET	MJ	0	0	1.77E-01	0	0	0	7.03E-01	0	0

HWD = Hazardous waste disposed; NHWD = Non-hazardous waste disposed; RWD = Radioactive waste disposed; CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported electrical energy; EET = Exported thermal energy

RESULTS OF THE LCA – additional impact categories according to EN 15804+A2-optional: 1 piece Solenoid Lock SVX 6000

Parameter	Unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
PM	Disease incidence	4.63E-07	4.56E-11	1E-10	1.13E-06	0	2.04E-11	2.45E-10	0	-1.98E-07
IR	kBq U235 eq	3.5E-01	1.89E-05	1.66E-04	2.67E+01	0	8.42E-06	4.33E-04	0	-2.8E-02
ETP-fw	CTUe	4.77E+01	8.7E-02	1E-02	4.6E+02	0	3.9E-02	2.6E-02	0	-7.21E+00
HTP-c	CTUh	2.14E-07	1.64E-12	5.11E-13	1.27E-08	0	7.31E-13	1.88E-12	0	-2.51E-09
HTP-nc	CTUh	1.09E-07	7E-11	2.22E-11	4.68E-07	0	3.13E-11	1.15E-10	0	-1.43E-08
SQP	SQP	4.68E+01	3.16E-04	5E-03	3.42E+02	0	1.41E-04	1.8E-02	0	-1.64E+00

PM = Potential incidence of disease due to PM emissions; IR = Potential Human exposure efficiency relative to U235; ETP-fw = Potential comparative Toxic Unit for ecosystems; HTP-c = Potential comparative Toxic Unit for humans (cancerogenic); HTP-nc = Potential comparative Toxic Unit for humans (not cancerogenic); SQP = Potential soil quality index

Disclaimer 1 – for the indicator “Potential Human exposure efficiency relative to U235”. This impact category deals mainly with the eventual impact of low-dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure or radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, radon and from some construction materials is also not measured by this indicator.

Disclaimer 2 – for the indicators “abiotic depletion potential for non-fossil resources”, “abiotic depletion potential for fossil resources”, “water (user) deprivation potential, deprivation-weighted water consumption”, “potential comparative toxic unit for ecosystems”, “potential comparative toxic unit for humans – cancerogenic”, “Potential comparative toxic unit for humans - not cancerogenic”, “potential soil quality index”. The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high as there is limited experience with the indicator.

This EPD was created using a software tool.

References

EN 179

EN 179:2008-04; Building hardware - Emergency exit devices operated by a lever handle or push pad, for use on escape routes - Requirements and test methods

EN 1125

EN 1125:2008-04; Building hardware - Panic exit devices operated by a horizontal bar, for use on escape routes - Requirements and test methods

EN 12209

EN 12209:2016-10; Building hardware - Mechanically operated locks and locking plates - Requirements and test methods

EN 14846

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

EN 15804

EN15804+A2:2019+AC:2021; Sustainability of construction works — Environmental Product Declarations — Core rules for the product category of construction products

ISO 14025

DIN EN ISO 14025:201110; Environmental labels and declarations — Type III environmental declarations — Principles and procedures

REACH

Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

ROHS3 Directive

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

Further References

IBU 2021

General Instructions for the EPD programme of Institut Bauen und Umwelt e.V. Version 2.0, Berlin: Institut Bauen und Umwelt e.V., 2021. www.ibu-epd.com

GaBi

Sphera Solutions GmbH Gabi Software System and Database for Life Cycle Engineering 1992-2020 Version 10.0.0.71 University of Stuttgart Leinfelden-Echterdingen

GaBi ts documentation

GaBi life cycle inventory data documentation (<https://www.gabi-software.com/support/gabi/gabidatabase-2020-lci-documentation/>)

LCA-tool dormakaba

LCA tool DHW. LCA-Tool No.: IBU-DOR-202104-LT1-EN. Developed by Sphera Solutions GmbH

PCR Part A

PCR – Part A: Calculation Rules for the Life Cycle Assessment and Requirements on the Project Report according to EN 15804+A2:2019, Version 1.0, 2020, Institut Bauen und Umwelt e.V., www.ibu-epd.com

PCR Part B

PCR – Part B: Requirements on the EPD for Building Hardware product, version 08/2021, Institut Bauen und Umwelt e.V., www.ibu-epd.com.



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