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-20260058-CBA1-EN
Issue date	06.03.2026
Valid to	05.03.2031

Mortise Lock Saffire EVO Series

dormakaba

Institut Bauen und Umwelt e.V.

ECO PLATFORM EPD VERIFIED

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General Information

dormakaba

Programme holder

IBU – Institut Bauen und Umwelt e.V.
Hegelplatz 1
10117 Berlin
Germany

Declaration number

EPD-DOR-20260058-CBA1-EN

This declaration is based on the product category rules:

Electronic and physical Access Control Systems, 01.08.2021
(PCR checked and approved by the SVR)

Issue date

06.03.2026

Valid to

05.03.2031



Dipl.-Ing. Hans Peters
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Florian Pronold
(Managing Director Institut Bauen und Umwelt e.V.)

Mortise Lock Saffire EVO Series

Owner of the declaration

dormakaba International Holding GmbH
DORMA Platz 1
58256 Ennepetal
Germany

Declared product / declared unit

1 piece of the product: Mortise Lock Saffire EVO LZ-M, consisting of the following items:

- Mortise lock
- Lever handle
- Fixing materials
- Product packaging

Scope:

This Environmental Product Declaration refers to a specific Mortise Lock manufactured by dormakaba. The production site is located in Montreal (Canada).

This declaration covers multiple product variants of dormakaba's Saffire EVO Series. The declared results are based on the Saffire LZ-M, which represents the worst-case scenario.

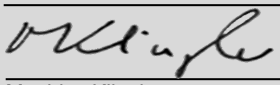
Data represents the year 2024.

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 *EN 15804*.

Verification

The standard EN 15804 serves as the core PCR
Independent verification of the declaration and data according to ISO 14025:2011
☐ internally ☒ externally



Matthias Klingler,
(Independent verifier)

Product

Product description/Product definition

The Mortise Lock Saffire EVO LZ-M is a cloud-connected smart lock designed for multifamily housing. It enables secure and flexible access through mobile devices using Bluetooth Low Energy (BLE), RFID credentials, or secure PIN codes. With built-in Wi-Fi, the lock connects seamlessly with the dormakaba Lyazon cloud platform and enables real-time access management and access permission updates.

For the use and application of the product the representative national provisions apply. For the Mortise Lock Saffire EVO Series, the standards which can be applied are the following:

- *ANSI A156.13*
- *ANSI A156.25*
- *UL 10C*
- *ULC S-104*
- *EN 12209*
- *EN 1634-1*
- *EN 1363-1*

Application

The Mortise Lock Saffire EVO Series is the ideal application for:

- Multifamily housing
- Resident units
- Common areas
- Hotels
- Service access

Technical Data

The Mortise Lock Series Saffire EVO LZ-M has the following technical properties:

Name	Value	Unit
Electronic mortise lock set with contactless RFID reader	1	piece
Handling	left/right	reversible
Door Thickness max.	64	mm
Standard Backset	70	mm
Batteries	3	AA
Mobile Access	BLE	enabled
Audit memory	5000	events
Operating temperature	-35 to +70	C°

The products are not harmonised in accordance with the Construction Product Regulations (CPR) but in accordance with other provisions for harmonisation of the EU. Compliance with the European Union Directive and technical specifications:

- *Directive (EU) No 2011/65 (RoHS)*
- *Regulation (EC) No 1907/2006 (REACH)*
- *ANSI A156.13*
- *ANSI A156.25*
- *UL 10C*
- *ULC S-104*
- *EN 12209*
- *EN 1634-1*
- *EN 1363-1*

This EPD follows additional requirements for construction products considered as electronic or electric equipment.

Base materials/Ancillary materials

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

Name	Value	Unit
Steel	42	%
Zinc	40	%
Paper	12	%
Electronics	3	%
Plastics	3	%

The product includes partial articles which contain substances listed in the *Candidate List of REACH Regulation 1907/2006/EC* (date: 04.02.2026) 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 0,35% (by mass).

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

Manufacture

The manufacturing process is primarily based on the assembly of mechanical and electronic components, including pre-produced electronic assemblies. The specific manufacturing steps and processes may vary depending on the product type and configuration.

Reference service life

The reference service life for the Mortise Lock Saffire EVO Series amounts to 10 years, depending on the application and frequency of use. For repairs and renewals, suitable spare parts are available. The mortise lock series is tested and certified to *BHMA A156.13*, meaning they are designed to withstand a minimum of 1.000.000 cycles.

LCA: Calculation rules

Declared Unit

The declared unit is 1 piece of the product: Saffire EVO LZ-M including packaging

Name	Value	Unit
Declared unit	1	pce.
Mass of declared Product without Packaging	3,48	kg
Mass of Packaging	0,49	kg
Mass reference	3,97	kg/pce

System boundary

The type of EPD is: cradle to gate with options, modules C1–C4, and module D (A1–A3 + C + D and additional modules: A4 + A5 + B2)

Production - Modules 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.
A3 is located in Montreal (Canada). The electricity used corresponds to an average emission factor of 0.170 kg CO_2-equivalent per kWh.

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.

Maintenance – Module B2
This module includes the production and the end of life of the batteries. The potential use of batteries is declared in module B2.

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

Name	Value	Unit
Biogenic carbon content in product	-	kg C
Biogenic carbon content in accompanying packaging	0,18	kg C

Note: 1 kg of biogenic carbon is equivalent to 44/12 kg of CO_2.

Transport to the building site (A4)

Name	Value	Unit
Litres of fuel	0.00276	l/100km
Capacity utilisation (including empty runs) via medium truck	55	%
Transport distance via medium truck	100	km

The product is transported via truck. The product is stored in the dormakaba logistic centre in Montreal. The main distribution region is North America. In order to allow scaling to a specific point of installation 100 km are declared.

Installation into the building (A5)

Name	Value	Unit
Waste packaging (paper and plastic)	0,49	kg

Maintenance (B2)

Name	Value	Unit
Use of batteries	5	pieces

dormakaba Mortise Lock Saffire EVO Series are operated using a battery and are not connected to mains electricity. The batteries are provided by dormakaba. During the operation of the product, the only energy consumption comes from the battery use. The battery must be exchanged on average 5 times over the declared service life. In order to allow scaling, the exchange of 1 battery is declared in the LCA.

Reference service life

Name	Value	Unit
Life Span according to the manufacturer	10	a

End of life (C1-C4)
C1: The product dismantling from the building is done manually without environmental burden.
C2: Transport to waste management: 50 km.

Name	Value	Unit
Collected separately waste type	3.48	kg
Recycling	3.32	kg
Energy recovery	0.104	kg
Landfilling	0.049	kg

The product is disassembled in a recycling process. Material recycling is then assumed for the metals and electronics. The plastic components are assumed to be incinerated with energy recovery. Minor proportions of residues arising from the recycling process are landfilled. Region for the End of Life is: Global.

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

Name	Value	Unit
Recycling	100	%

The collection rate is 100 %.

LCA: Results

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	X	MNR	MNR	MNR	MND	MND	X	X	X	X	X

RESULTS OF THE LCA - ENVIRONMENTAL IMPACT according to EN 15804+A2: 1 piece Saffire EVO Series

Parameter	Unit	A1-A3	A4	A5	B2	C1	C2	C3	C4	D
GWP-total	kg CO_2 eq	1.31E+01	4.1E-02	7.84E-01	8.48E-01	0	1.8E-02	3.14E-01	7.4E-04	-5.73E+00
GWP-fossil	kg CO_2 eq	1.38E+01	3.9E-02	2.8E-02	8.47E-01	0	1.7E-02	3.14E-01	7.33E-04	-5.72E+00
GWP-biogenic	kg CO_2 eq	-6.68E-01	2E-03	7.55E-01	3.43E-04	0	7.54E-04	3.53E-04	2.33E-06	-3E-03
GWP-luluc	kg CO_2 eq	1.4E-02	1.53E-06	1.13E-05	2.01E-04	0	6.78E-07	2.5E-05	4.4E-06	-6E-03
ODP	kg CFC11 eq	9.42E-11	3.42E-15	9.7E-14	2.41E-12	0	1.51E-15	9.97E-13	1.98E-15	-2.94E-11
AP	mol H^+ eq	7.3E-02	4.32E-05	1.91E-04	8E-03	0	1.91E-05	1.3E-04	5.21E-06	-2.9E-02
EP-freshwater	kg P eq	4.53E-05	9.99E-09	2.74E-08	6.24E-07	0	4.42E-09	1.89E-07	1.67E-09	-1.53E-05
EP-marine	kg N eq	1.3E-02	1.54E-05	6.98E-05	1E-03	0	6.83E-06	3.31E-05	1.34E-06	-4E-03
EP-terrestrial	mol N eq	1.49E-01	1.75E-04	8.73E-04	1.2E-02	0	7.75E-05	4.55E-04	1.48E-05	-4.3E-02
POCP	kg NMVOC eq	3.9E-02	4.52E-05	1.85E-04	3E-03	0	2E-05	8.87E-05	4.1E-06	-1.4E-02
ADPE	kg Sb eq	3.06E-03	1.02E-09	1.02E-09	4.09E-05	0	4.5E-10	8.28E-09	4.75E-11	-2E-03
ADPF	MJ	1.78E+02	5.47E-01	2.15E-01	1.04E+01	0	2.42E-01	9.67E-01	1E-02	-7.64E+01
WDP	m^3 world eq deprived	3.78E+00	7.87E-05	8.5E-02	1.44E-01	0	3.48E-05	3.8E-02	8.4E-05	-1.59E+00

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 Saffire EVO Series

Parameter	Unit	A1-A3	A4	A5	B2	C1	C2	C3	C4	D
PERE	MJ	6.66E+01	3E-03	5.86E+00	1.41E+00	0	1E-03	6.48E-01	2E-03	-2.18E+01
PERM	MJ	5.8E+00	0	-5.8E+00	0	0	0	0	0	0
PERT	MJ	7.24E+01	3E-03	5.9E-02	1.41E+00	0	1E-03	6.48E-01	2E-03	-2.18E+01
PENRE	MJ	1.75E+02	5.47E-01	4.3E-01	1.04E+01	0	2.42E-01	3.79E+00	1E-02	-7.64E+01
PENRM	MJ	3.04E+00	0	-2.15E-01	0	0	0	-2.82E+00	0	0
PENRT	MJ	1.78E+02	5.47E-01	2.15E-01	1.04E+01	0	2.42E-01	9.67E-01	1E-02	-7.64E+01
SM	kg	2.6E+00	0	0	0	0	0	0	0	1.53E+00
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	1.39E-01	3.21E-06	2E-03	4E-03	0	1.42E-06	1E-03	2.56E-06	-4.6E-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 Saffire EVO Series

Parameter	Unit	A1-A3	A4	A5	B2	C1	C2	C3	C4	D
HWD	kg	2.47E-05	1.69E-11	1.24E-10	3.21E-08	0	7.46E-12	1.31E-09	2.41E-12	-3.79E-08
NHWD	kg	3.21E+00	5.23E-05	2.3E-02	1.31E-01	0	2.32E-05	3E-02	4.9E-02	-1.49E-01
RWD	kg	8.01E-03	6.08E-07	1.07E-05	1.98E-04	0	2.69E-07	1.36E-04	1.02E-07	-3E-03
CRU	kg	0	0	0	0	0	0	0	0	0
MFR	kg	0	0	0	0	0	0	2.99E+00	0	0
MER	kg	0	0	0	0	0	0	0	0	0
EEE	MJ	0	0	1.05E+00	0	0	0	4.22E-01	0	0
EET	MJ	0	0	1.91E+00	0	0	0	9.78E-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 Saffire EVO Series

Parameter	Unit	A1-A3	A4	A5	B2	C1	C2	C3	C4	D
PM	Disease incidence	9.21E-07	3.96E-10	1.06E-09	6.64E-08	0	1.75E-10	1.26E-09	6.53E-11	-3.75E-07
IR	kBq U235 eq	8.06E-01	8.32E-05	2E-03	2.1E-02	0	3.68E-05	2.2E-02	1.18E-05	-3.92E-01
ETP-fw	CTUe	6.73E+01	4.05E-01	9.4E-02	1.79E+00	0	1.79E-01	2.94E-01	6E-03	-3.29E+01
HTP-c	CTUh	4.65E-07	7.32E-12	5.61E-12	1.11E-07	0	3.24E-12	1.82E-11	1.32E-13	-5.38E-06
HTP-nc	CTUh	3.07E-07	2.3E-10	1.22E-10	3.72E-09	0	1.02E-10	5.56E-10	5.09E-12	-2.68E-08
SQP	SQP	6.28E+01	2E-03	6.6E-02	2.23E+00	0	8.34E-04	3.95E-01	3E-03	-8.8E+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 IRP
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, from radon and from some construction materials is also not measured by this indicator.

Disclaimer 2 – for the indicators ADPE, ADPF, WDP, ETP-fw, HTP-c, HTP-nc, SQP
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

ANSI A156.25:2023
ANSI A156.25:2023, Electrified Locking Devices

ANSI A156.13:2022
ANSI A156.13:2022, Mortise Locks

UL 10C:2016
UL 10C:2016-06, Standard for Safety Positive Pressure Fire Tests of Door Assemblies

ULC CAN-S104:2020
ULC CAN-S104:2020-08, Standard Method for Fire Tests of Door Assemblies

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

EN 1634-1:2018
EN 1634-1:2018-04, Fire resistance and smoke control tests for door and shutter assemblies, openable windows and elements of building hardware

DIN EN 1363-1:2020-05
DIN EN 1363-1:2020-05, Fire resistance tests - Part 1: General requirements

DIN EN ISO 14025:
DIN EN ISO 14025:2011-10,
Environmental labels and declarations — Type III Environmental Declarations - Principles and procedures

EN 15804:2019+A2
EN 15804:2019+A2 (in press), Sustainability of construction works — Environmental Product Declarations — Core rules for the product category of
construction products.

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

RoHS
2011/65/EU, Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment

Further References

IBU 2022
General Instructions for the EPD programme of Institut Bauen und Umwelt e.V. Version 2.1, Berlin: Institut Bauen und Umwelt e.V., 2022. 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/).

SPHERA LCA FE
Sphera LCA for Experts, LCA FE,
Software system and databases,
Managed LCA content MLC (fka GaBi database), University of Stuttgart and Sphera Solutions GmbH

MLC documentation
MLC life cycle inventory data documentation
https://lcadatabase.sphera.com/

LCA-tool dormakaba
Tool No.: IBU-DOR-202508-LT2-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 1.4, 2024 Institut Bauen und Umwelt e.V., www.ibu-epd.com.

PCR Part B
PCR – Part B: Requirements on the EPD for Electronic and physical Access Control Systems, 01.08.2021, Institut Bauen und Umwelt e.V., www.ibu-epd.com.

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