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-20260464-CBA1-EN
Issue date	29.06.2026
Valid to	28.06.2031

Automatic Sliding Door Operator ES PROLINE (ES 400 PRO)

dormakaba

Institut Bauen und Umwelt e.V.

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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-20260464-CBA1-EN

This declaration is based on the product category rules:

Drive systems for automatic doors and gates, 01.08.2021
(PCR checked and approved by the SVR)

Issue date

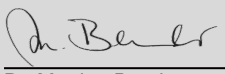
29.06.2026

Valid to

28.06.2031



Dipl.-Ing. Hans Peters
(Chairman of Institut Bauen und Umwelt e.V.)



Dr. Martina Bender
(Managing Director Institut Bauen und Umwelt e.V.)

Automatic Sliding Door Operator ES PROLINE (ES 400 PRO)

Owner of the declaration

dormakaba International Holding GmbH
DORMA Platz 1
58256 Ennepetal
Germany

Declared product / declared unit

1 piece of the product: Sliding Door Operator ES PROLINE, consisting of the following items:
- Sliding door operator ES 400 PRO
- Basic cover
- Product packaging

Scope:

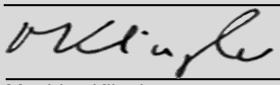
This Environmental Product Declaration refers to a specific Sliding Door Operator manufactured by dormakaba. The production site is located in Ennepetal (Germany).

Green electricity with Guarantee of Origin (GoO) is being used at this production site.
The data represents the year 2025.
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 evidence.

The EPD was created according to the specifications of EN 15804+A2. In the following, the standard is abbreviated 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
☐ internal ☒ external



Matthias Klingler,
(Independent verifier)

Product

Product description/Product definition

The ES 400 PRO is part of dormakaba's PROLINE range of automatic sliding door operators, characterised by its modular design, performance and durability. It is suitable for almost all automatic sliding door applications, whether for use on classic sliding doors or for escape and rescue routes.

The Automatic Sliding Door Operator is available in three variants:

- ES 400 PRO: For standard applications
- ES 400 PRO FST: For emergency exits and escape routes
- ES 400 PRO T / ES 400 PRO T FST: Telescopic version for standard applications and emergency exits and escape routes

For the use and application of the product the respective national provisions at the place of use apply.

- *ISO 12100*
- *EN 16005*
- *ISO 13849-1*
- *EN 60335-2*
- *EN 61000*
- *IEC 63000*
- *2011/65/EU ROHS3 Directive*
- *Machinery Directive 2006/42/EC*
- *2014/30/EU Electromagnetic Compatibility Directive*

The CE-marking takes into account the proof of conformity with the respective harmonized standards based on the legal provisions above.

Application

The Automatic Sliding Door Operator ES 400 PRO is suitable for various applications:

- Healthcare facilities
- Educational institutions
- Office buildings
- Hotels
- Hospitality environments

Technical data

The ES 400 PRO has the following technical properties:

Name	Value	Unit
Height	100	mm
Installation depth	180	mm
Opening and closing force	150	N
Opening speed ES 400 PRO / T	10 - 90	cm/s
Opening speed ES 400 PRO FST / T FST	20 - 90	cm/s
Closing speed ES 400 PRO - All Variants	10 - 90	cm/s
Hold open time	0 - 180	s
Supply voltage, frequency	50 - 60	Hz
Power input	130 - 180	W
Protection type	120	IP

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

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

Base materials/auxiliary materials

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

Name	Value	Unit
Aluminium	38	%
Steel	28	%
Paper	13	%
Electronics	11	%
Plastics	8	%
Zinc	2	%

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 used in some of the alloys. The concentration of lead does not exceed 0,4% (by mass).

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

Manufacture

The manufacturing process is 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 of the ES 400 PRO amounts to 15 years and depends on the application and frequency of use. For repairs or renewals, suitable spare parts are available. The sliding door operators are tested and certified to *EN 16005*, meaning they are designed to withstand a minimum of 1.500.000 cycles.

LCA: Calculation rules

Declared unit

The declared unit is 1 piece of the product: ES 400 PRO including packaging

Name	Value	Unit
Declared unit	1	pce.
Mass of declared Product without Packaging	21,88	kg
Mass of Packaging	3,35	kg
Mass reference	25,23	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 + B6)

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 (green electricity with Guarantee of Origin (GoO)), as well as waste processing up to the end-of waste state. The electricity from renewable energy corresponds to an average emission factor of 0.00725 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.

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

Comparability
Basically, a comparison or an evaluation of EPD data is only possible if all data sets to be compared were created according to *EN 15804* and the building context and product-specific performance characteristics are taken into account.
Background database: GaBi, CUP 2024.2.

LCA: Scenarios and additional technical information

Characteristic product properties of biogenic carbon

Name	Value	Unit
Biogenic carbon content in product	0.052	kg C
Biogenic carbon content in accompanying packaging	1.15	kg C

Ennepetal (Germany) is considered for A3.

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

Transport from the gate to the site (A4)

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

In order to allow scaling to a specific point of installation 100 km via truck are declared. The main distribution regions are Europe and Australia.

Installation into the building (A5)

Name	Value	Unit
Waste packaging (paper and plastic)	3,35	kg

Reference service life

Name	Value	Unit
Life Span according to the manufacturer	15	a

Operational energy use (B6)

Name	Value	Unit
Electricity consumption for 1 year	88.88	kWh
Days per year in use	365	days
On mode per day	0,78	h
Idle mode per day	23,22	h
On mode power Ø	65,12	W
Idle mode power	8,3	W

End of life (C1-C4)
C1: The product dismantling from the building is done manually without environmental burden.

Name	Value	Unit
Collected separately waste type	21.88	kg
Recycling	18	kg
Energy recovery	2.14	kg
Landfilling	1.74	kg
Transport to waste management	50	km

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. Electromechanics and 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	%

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	MND	MNR	MNR	MNR	X	MND	X	X	X	X	X

RESULTS OF THE LCA - ENVIRONMENTAL IMPACT according to EN 15804+A2: 1 piece ES 400 PRO

Parameter	Unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
GWP-total	kg CO_2 eq	5.45E+01	2.6E-01	5.6E+00	6E+02	0	1.14E-01	5.86E+00	2.6E-02	-1.93E+01
GWP-fossil	kg CO_2 eq	5.95E+01	2.5E-01	6.58E-01	5.97E+02	0	1.1E-01	5.63E+00	2.6E-02	-1.93E+01
GWP-biogenic	kg CO_2 eq	-5E+00	1.1E-02	4.94E+00	2.81E+00	0	5E-03	2.27E-01	8.28E-05	1.6E-02
GWP-luluc	kg CO_2 eq	5.51E-02	9.74E-06	1.04E-04	5.3E-02	0	4.28E-06	4.18E-04	1.56E-04	-4E-03
ODP	kg CFC11 eq	2.3E-10	2.18E-14	8.06E-13	9.45E-09	0	9.56E-15	1.1E-11	7.03E-14	-7.39E-11
AP	mol H^+ eq	2.16E-01	2.75E-04	1E-03	2.22E+00	0	1.21E-04	2E-03	1.85E-04	-5.5E-02
EP-freshwater	kg P eq	2.05E-04	6.36E-08	2.2E-07	1E-03	0	2.79E-08	2.12E-06	5.92E-08	-1.29E-05
EP-marine	kg N eq	4.66E-02	9.82E-05	4.75E-04	5E-01	0	4.31E-05	4.52E-04	4.76E-05	-8E-03
EP-terrestrial	mol N eq	4.89E-01	1E-03	6E-03	5.4E+00	0	4.9E-04	7E-03	5.24E-04	-8.4E-02
POCP	kg NMVOC eq	1.44E-01	2.88E-04	1E-03	1.37E+00	0	1.26E-04	1E-03	1.46E-04	-2.9E-02
ADPE	kg Sb eq	7.29E-03	6.47E-09	8.22E-09	6.62E-05	0	2.84E-09	9.16E-08	1.69E-09	-4.77E-04
ADPF	MJ	7.83E+02	3.48E+00	1.64E+00	9.54E+03	0	1.53E+00	1.1E+01	3.43E-01	-2.5E+02
WDP	m^3 world eq deprived	1.33E+01	5.01E-04	6.02E-01	2.07E+02	0	2.2E-04	6.46E-01	3E-03	-1.53E+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 ES 400 PRO

Parameter	Unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
PERE	MJ	2.7E+02	1.7E-02	3.8E+01	5.43E+03	0	7E-03	8.66E+00	6E-02	-6.36E+01
PERM	MJ	3.92E+01	0	-3.76E+01	0	0	0	-1.68E+00	0	0
PERT	MJ	3.09E+02	1.7E-02	4.72E-01	5.43E+03	0	7E-03	6.98E+00	6E-02	-6.36E+01
PENRE	MJ	7.15E+02	3.48E+00	1.11E+01	9.54E+03	0	1.53E+00	7.05E+01	3.43E-01	-2.5E+02
PENRM	MJ	6.89E+01	0	-9.46E+00	0	0	0	-5.95E+01	0	0
PENRT	MJ	7.83E+02	3.48E+00	1.64E+00	9.54E+03	0	1.53E+00	1.1E+01	3.43E-01	-2.5E+02
SM	kg	1.13E+01	0	0	0	0	0	0	0	6.24E+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	5.14E-01	2.04E-05	1.4E-02	5.06E+00	0	8.97E-06	1.7E-02	9.1E-05	-9.83E-01

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 ES 400 PRO

Parameter	Unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
HWD	kg	1.9E-05	1.07E-10	1E-09	1E-05	0	4.72E-11	1.42E-08	8.56E-11	-7.37E-07
NHWD	kg	6.89E+00	3.33E-04	1.95E-01	6E+00	0	1.46E-04	5.56E-01	1.74E+00	-7.97E-01
RWD	kg	2.2E-02	3.87E-06	7.74E-05	9.36E-01	0	1.7E-06	1E-03	3.61E-06	-1.5E-02
CRU	kg	0	0	0	0	0	0	0	0	0
MFR	kg	0	0	0	0	0	0	6.92E+00	0	0
MER	kg	0	0	0	0	0	0	0	0	0
EEE	MJ	0	0	7.56E+00	0	0	0	8.34E+00	0	0
EET	MJ	0	0	1.41E+01	0	0	0	1.92E+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 ES 400 PRO

Parameter	Unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
PM	Disease incidence	2.85E-06	2.52E-09	7.87E-09	2.09E-05	0	1.11E-09	1.81E-08	2.32E-09	-6.88E-07
IR	kBq U235 eq	2.6E+00	5.3E-04	1.2E-02	1.54E+02	0	2.33E-04	2.28E-01	4.18E-04	-2.64E+00
ETP-fw	CTUe	3.04E+02	2.58E+00	7.03E-01	2.59E+03	0	1.13E+00	3.46E+00	1.98E-01	-3.92E+01
HTP-c	CTUh	1.57E-07	4.66E-11	4.4E-11	1.29E-07	0	2.05E-11	2.26E-10	4.67E-12	-6.3E-07
HTP-nc	CTUh	6.12E-07	1.46E-09	1.35E-09	2.19E-06	0	6.42E-10	8.73E-09	1.81E-10	-4.82E-08
SQP	SQP	7E+02	1.2E-02	5.07E-01	2.86E+03	0	5E-03	4.41E+00	9.5E-02	-1.79E+01

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 (carcinogenic); HTP-nc = Potential comparative toxic unit for humans (not carcinogenic); 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

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

EN 15804
EN 15804:2012-04+A1 2013, Sustainability of construction works — Environmental Product Declarations — Core rules for the product category of construction products

EN 16005
EN 16005:2013-01, Power operated pedestrian doorsets - Safety in use - Requirements and test methods

EN 60335
EN 60335-1,-2-103:2020-08, Household and similar electrical appliances - Safety - Part 1: General requirements

EN 61000
EN 61000-1-2:2017-07, Electromagnetic compatibility (EMC) - Part 1-2: General - Methodology for the achievement of functional safety of electrical and electronic systems including equipment with regard to electromagnetic phenomena

IEC 63000
IEC 63000:2019-05, Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances

ISO 13849
ISO 13849-1:2021-08, Safety of machinery - Safety-related parts of control systems - Part 1: General principles for design

Machinery Directive
Directive 2006/42/EC of the European Parliament and of the Council on machinery, and amending Directive 95/16/EC

2014/30/EU Electromagnetic Compatibility Directive
Directive 2014/30/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to electromagnetic compatibility (recast)

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.gabisoftware.com/support/gabi/gabidatabase-2020-lci-documentation/)

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 Re-port according to EN 15804+A2:2019, Version 1.0, Institut Bauen und Umwelt e.V., www.ibu-epd.com

PCR Part B
PCR – Part B: Requirements for the EPD for Drive systems for automatic doors and gates, version 08/2021, Institut Bauen und Umwelt e.V., www.ibu-epd-com

REACH
Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), Regulation (EC) No 1907/2006

2011/65/EU 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

European Chemicals Agency (ECHA)
https:echa.europa.eu/de/home

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