ENVIRONMENTAL PRODUCT DECLARATION

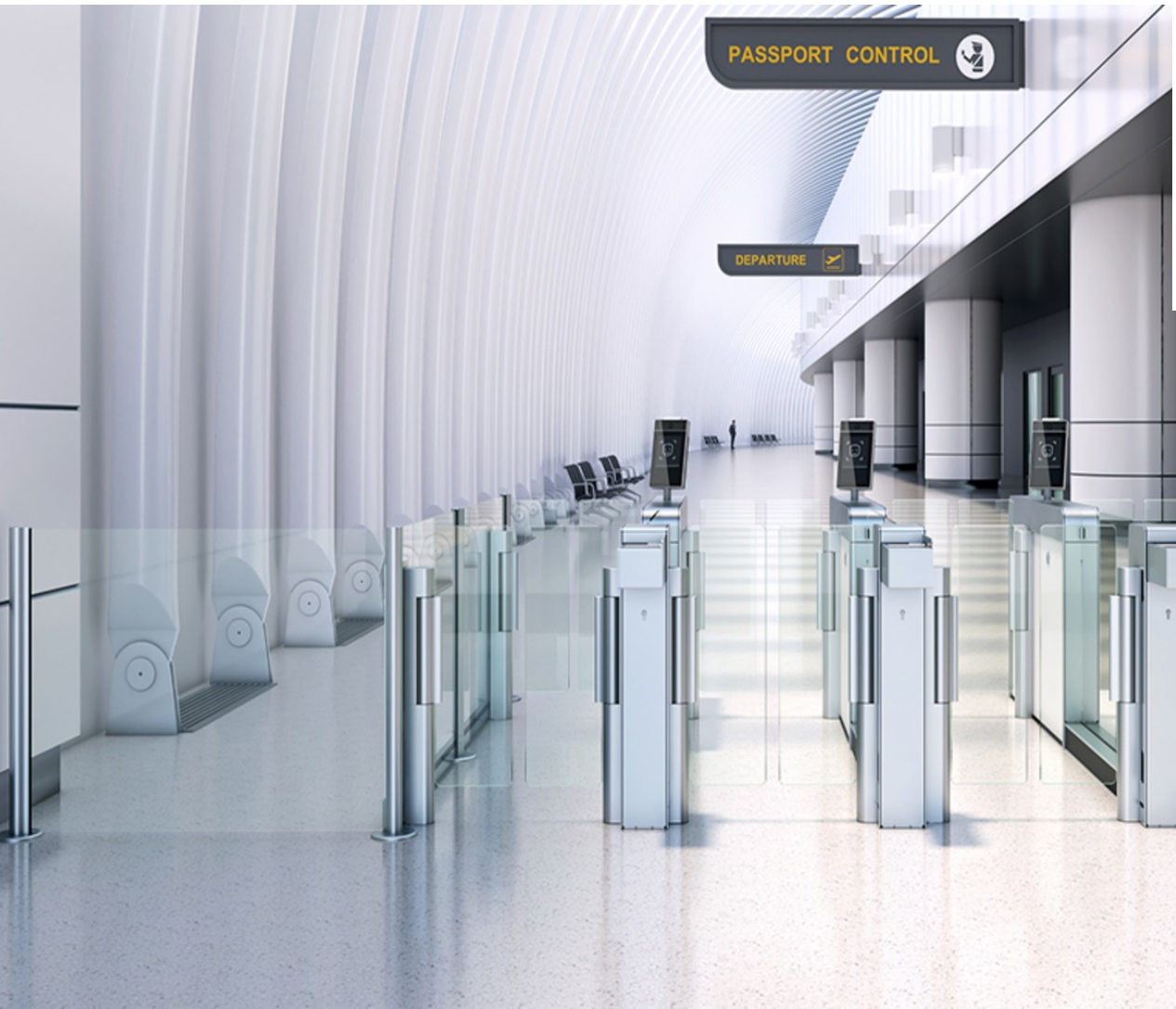
as per *ISO 14025* and *EN 15804+A2*

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-20250257-CBA1-EN
Issue date	16.07.2025
Valid to	15.07.2030

Sensor barrier Argus AIR Interlock

dormakaba

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



General Information

dormakaba

Programme holder

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

Declaration number

EPD-DOR-20250257-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

16.07.2025

Valid to

15.07.2030



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



Florian Pronold
(Managing Director Institut Bauen und Umwelt e.V.)

Sensor barrier Argus AIR Interlock

Owner of the declaration

dormakaba International Holding GmbH
DORMA Platz 1
58256 Ennepetal
Germany

Declared product / declared unit

1 piece of the product: Argus AIR Interlock consisting of the following items:

- ARGUS Air Interlock
- Glass guiding element
- Product packaging

Scope:

This Environmental Product Declaration refers to a specific access control system manufactured by dormakaba. The production site is located in Bühl (Germany).

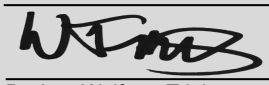
Green electricity with Guarantee of Origin (GoO) is being used at this production site.

The 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



Dr.-Ing. Wolfram Trinius,
(Independent verifier)

Product

Product description/Product definition

Argus Air Interlock is a physical barrier for access control and automated immigration processing. The system is built mainly in aluminium and glass. It consists of two pairs of door wings which are needed for the interlock function. The interlock length and passage width can be adapted according to customer requirements. The door leaves and the guiding elements can also be extanded for higher security requirements. A wide range of options in terms of reader installation and lighting for user guidance enables a smooth process even with a high volume of people.

For the ARGUS Air Interlock the standards which can be applied are the following:

- *EN 16005*
- *EN 60335*
- *EN 61000*
- *2006/42/EC*
- *2014/30/EU*
- *2011/65/EU*
- *ISO 12100*
- *ISO 13849*
- *ISO 9001*

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

Application

The ARGUS Air Interlock combines physical security with intelligent technology to prevent unauthorized access. It can be used in various applications, such as office buildings, research facilities, or other sensitive areas.

Technical Data

The ARGUS Air Interlock has following technical properties:

Name	Value	Unit
Housing protection class	20	IP
Noise emission	<70	dB (A)
Passage width	180	mm
Width of one side element	990	mm
Height of unit / door wing	2150	mm
Length of interlock interior	3000	mm
Total length of unit	2150	mm
Frequency of passage	30	people / min.
Control unit	ETS 22	cc

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
Glass	48	%
Aluminium	31	%
Paper	9	%
Steel	5	%
Plastics	3	%
Electronics	3	%
Brass	1	%

The product includes partial articles which contain substances listed in the *Candidate List of REACH Regulation 1907/2006/EC* (date: 25.01.2025) exceeding 0.1 percentage by mass: yes

- Dodecamethylcyclohexasiloxane (CAS-No. 540-97-6) and Decamethylcyclopentasiloxane (CAS-No. 541-02-6) are present in the formulation of the adhesive. The concentration of each substance in the product does not exceed 1.0% (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 ARGUS Air Interlock is about 15 years, depending on the application and frequency of use. For repairs and renewals, suitable spare parts are available. The ARGUS Air Interlock is tested and certified to *EN 16005*, meaning they are designed to withstand a minimum of 500.000 cycles.

LCA: Calculation rules

Declared Unit

The declared unit is 1 piece of the product: ARGUS Air Interlock including packaging

Name	Value	Unit
Declared unit	1	piece/product
Mass of declared Product without Packaging	279.6	kg
Mass of Packaging	33.80	kg

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)

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. A3 is located in Bühl (Germany).

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. Background database: 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	10.31	kg C

Bühl (Germany) is considered for A3.

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
Transport distance via truck (from plant to habor)	300	km
Capacity utilisation (including empty runs)	55	%
Transport distance via truck (for scaling)	100	km
Transport distance via ship	13.000	km

The product is transported via truck and ship. The main distribution region is Europe and Asia with the calculated transport distances. 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 and plastic / technical documentation)	33.80	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	822	kWh
Days per year in use	365	days
On mode per day	2	h
Idle mode per day	22	h
On mode power	103	W
Idle mode power	93	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 waste type	279	kg
Reuse	-	kg
Recycling	121	kg
Energy recovery	3.68	kg
Landfilling	154	kg

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

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	MND	MNR	MNR	MNR	X	MND	X	X	X	X	X

RESULTS OF THE LCA - ENVIRONMENTAL IMPACT according to EN 15804+A2: 1 piece Argus Air Interlock

Parameter	Unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
GWP-total	kg CO_2 eq	8.68E+02	2.43E+01	5.44E+01	6.93E+03	0	1.2E+00	9.59E+00	2.35E+00	-2.14E+02
GWP-fossil	kg CO_2 eq	9.11E+02	2.38E+01	1.57E+01	6.91E+03	0	1.15E+00	9.59E+00	2.34E+00	-2.14E+02
GWP-biogenic	kg CO_2 eq	-4.33E+01	5.01E-01	3.87E+01	1.04E+01	0	5.3E-02	2.23E-04	8E-03	-1.7E-01
GWP-luluc	kg CO_2 eq	4.98E-01	5.23E-04	1E-03	9.61E+00	0	2.73E-05	5.42E-04	7E-03	-1.5E-01
ODP	kg CFC11 eq	5.02E-09	2.36E-15	1.46E-14	8.69E-11	0	1.21E-16	4.83E-15	8.67E-15	-9.42E-10
AP	mol H^+ eq	5.69E+00	5.01E-01	1.4E-02	3.63E+01	0	1E-03	2E-03	1.7E-02	-9.93E-01
EP-freshwater	kg P eq	1.6E-03	5.24E-06	2.59E-06	1.1E-02	0	2.46E-07	7.71E-07	4.02E-06	-1.39E-04
EP-marine	kg N eq	9.98E-01	1.33E-01	5E-03	5.63E+00	0	3.66E-04	3.85E-04	4E-03	-1.37E-01
EP-terrestrial	mol N eq	1.11E+01	1.45E+00	6.2E-02	6.09E+01	0	4E-03	8E-03	4.7E-02	-1.49E+00
POCP	kg NMVOC eq	2.62E+00	3.71E-01	1.2E-02	1.64E+01	0	1E-03	1E-03	1.3E-02	-4.21E-01
ADPE	kg Sb eq	2.7E-02	6.56E-07	2.15E-07	1E-03	0	3.44E-08	6.63E-08	2.1E-07	-1.4E-02
ADPF	MJ	1.09E+04	3.09E+02	1.94E+01	9.78E+04	0	1.63E+01	4.44E+00	3.07E+01	-2.94E+03
WDP	m^3 world eq deprived	1.39E+02	4.4E-02	6.43E+00	1.45E+03	0	2E-03	9.8E-01	2.45E-01	-3.32E+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 Argus Air Interlock

Parameter	Unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
PERE	MJ	1.72E+03	9.96E-01	3.4E+02	3.36E+04	0	5.1E-02	1.16E+00	4.02E+00	-1.04E+03
PERM	MJ	3.36E+02	0	-3.36E+02	0	0	0	0	0	0
PERT	MJ	2.06E+03	9.96E-01	4.06E+00	3.36E+04	0	5.1E-02	1.16E+00	4.02E+00	-1.04E+03
PENRE	MJ	1.05E+04	3.1E+02	2.69E+02	9.78E+04	0	1.63E+01	1.13E+02	3.07E+01	-2.94E+03
PENRM	MJ	3.58E+02	0	-2.49E+02	0	0	0	-1.09E+02	0	0
PENRT	MJ	1.09E+04	3.1E+02	1.94E+01	9.78E+04	0	1.63E+01	4.44E+00	3.07E+01	-2.94E+03
SM	kg	8.84E+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	4.2E+00	2E-03	1.52E-01	4.98E+01	0	9.21E-05	2.3E-02	8E-03	-2.47E+00

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 Argus Air Interlock

Parameter	Unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
HWD	kg	6.11E-05	3.03E-08	4.45E-08	4.75E-05	0	1.58E-09	1.69E-08	4.68E-07	-4.83E-06
NHWD	kg	1.17E+02	3.2E-02	2.78E+00	5.74E+01	0	2E-03	9.95E-01	1.54E+02	-3.73E+01
RWD	kg	1.81E-01	3.39E-04	9.12E-04	9.76E+00	0	1.75E-05	1.65E-04	3.49E-04	-2.24E-01
CRU	kg	0	0	0	0	0	0	0	0	0
MFR	kg	0	0	0	0	0	0	4.03E+01	0	0
MER	kg	0	0	0	0	0	0	0	0	0
EEE	MJ	0	0	8.74E+01	0	0	0	1.8E+01	0	0
EET	MJ	0	0	1.72E+02	0	0	0	4.14E+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 Argus Air Interlock

Parameter	Unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
PM	Disease incidence	9.2E-05	8.43E-06	9.51E-08	5.39E-04	0	6.04E-09	2.18E-08	2.08E-07	-1.48E-05
IR	kBq U235 eq	2.4E+01	4.9E-02	1.25E-01	1.56E+03	0	2E-03	1.5E-02	3.6E-02	-4.37E+01
ETP-fw	CTUe	8.05E+03	2.19E+02	8.51E+00	3.35E+04	0	1.15E+01	1.67E+00	1.75E+01	-1.11E+03
HTP-c	CTUh	2E-05	4.12E-09	5.37E-10	1.39E-06	0	2.17E-10	1.44E-10	2.6E-09	-1.54E-07
HTP-nc	CTUh	1.13E-05	1.87E-07	3.61E-08	5.67E-05	0	9.28E-09	1.46E-08	2.86E-07	-1.41E-06
SQP	SQP	6.25E+03	8.1E-01	5.37E+00	2.51E+04	0	4.2E-02	1.33E+00	6.4E+00	-2.22E+02

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 15804
EN 15804+A2:2019+AC:2021,
Sustainability of construction works — Environmental Product Declarations — Core rules for the product category of construction products

ECHA
European Chemical Agency

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)

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

Machinery Directive
DIRECTIVE 2006/42/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 17 May 2006 on machinery, and amending Directive 95/16/EC

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

DIN EN ISO 12100
DIN EN ISO 12100:2011- 03 Safety of machinery

DIN EN ISO 13849- 1
DIN EN ISO 13849-1: 2016-06 Safety of machinery

DIN EN ISO 13849- 2
DIN EN ISO 13849-2: 2013-02 Safety of machinery

DIN EN 16005
DIN EN 16005: 2013-01 and Amendment 2015-10
Power operated pedestrian doorsets

DIN EN 60335-2
DIN EN 60335-2-103: 2016-05 Household and similar electrical appliances

DIN EN 61000-3-2
DIN EN 61000-3-2: 2015-03 Electromagnetic compatibility (EMC)

DIN EN 61000-6-2
DIN EN 61000-6-2: 2005 and Amendment:2011 Electromagnetic Compatibility (EMC)

DIN EN 61000-6-3
DIN EN 61000-6-3: 2007 and A1:2011 Electromagnetic Compatibility (EMC)

ISO 9001
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Further References

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GaBi
Sphera Solutions GmbH
Gabi Software System and Database for Life Cycle Engineering 19922020

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-lcidocumentation/).

LCA-tool dormakaba
Tool No.: IBU-DOR-202109-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 Electronic and physical Access Control Systems,version 08/2021, Institut Bauen und Umwelt e.V., www.ibu-epd.com.

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