

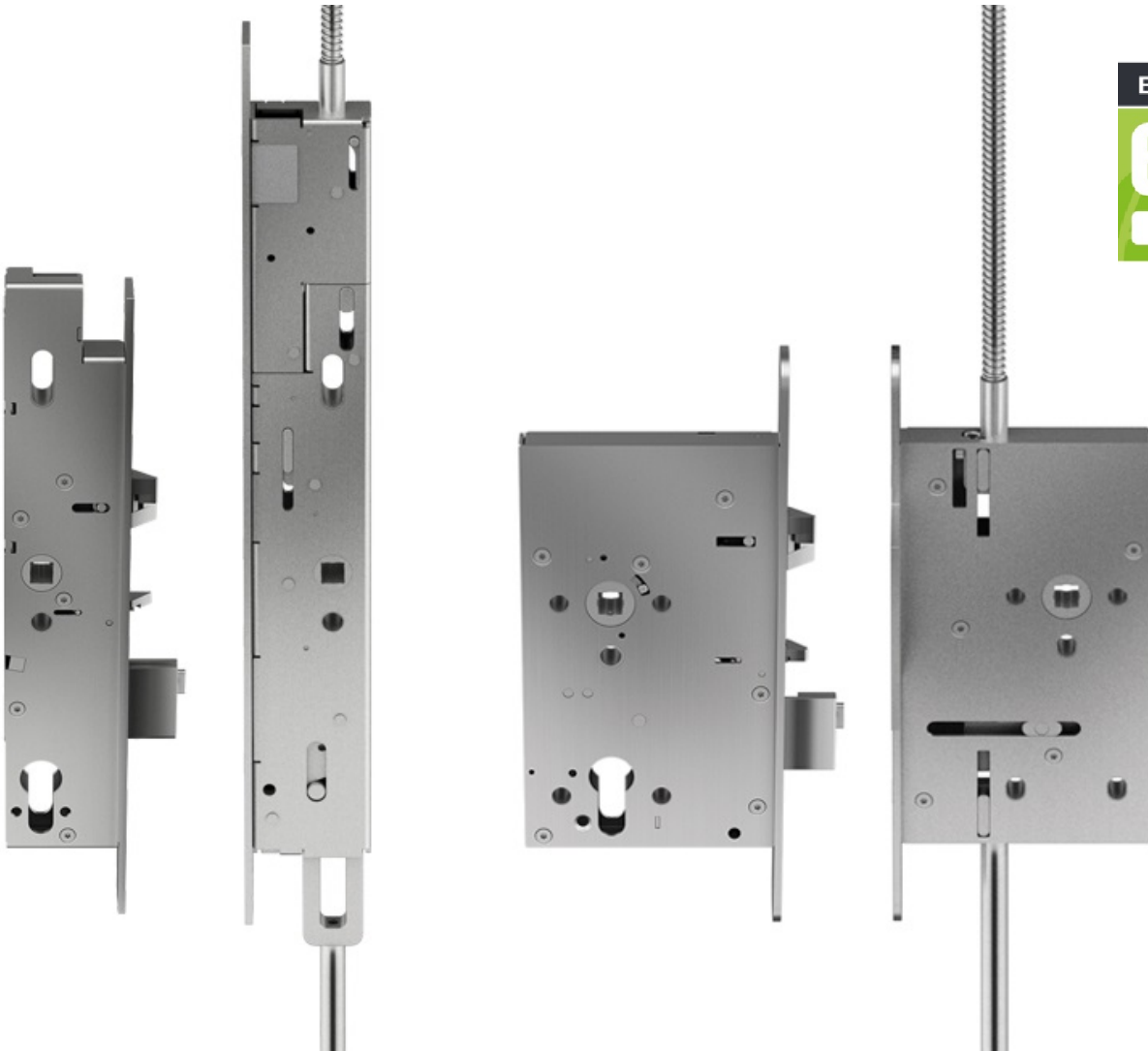
ENVIRONMENTAL PRODUCT DECLARATION

as per ISO 14025 and EN 15804+A2

Owner of the Declaration	dormakaba
Publisher	Institut Bauen und Umwelt e.V. (IBU)
Programme holder	Institut Bauen und Umwelt e.V. (IBU)
Declaration number	EPD-DOR-20230099-CBA1-EN
Issue date	13.04.2023
Valid to	12.04.2028

Motor Locks SVx 2000(F) dormakaba

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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-20230099-CBA1-EN

This declaration is based on the product category rules:

Building Hardware products, 01.01.0001
(PCR checked and approved by the SVR)

Issue date

13.04.2023

Valid to

12.04.2028



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



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

Motor Locks SVx 2000(F)

Owner of the declaration

dormakaba International Holding GmbH
DORMA Platz 1
58256 Ennepetal
Germany

Declared product / declared unit

1 piece of the product: Motor Lock SVA 2000F, consisting of the following items:

- Motor lock
- Product packaging

Scope:

This Environmental Product Declaration refers to the Mortise Lock SVx 2000 (F) series manufactured by dormakaba. This EPD is also representing the variants SVA 2000, SVP 2000(F) and SVI 2000F. The production site is located in Ennepetal (Germany). Green electricity is being used at this production site.

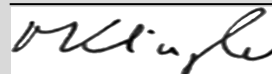
The data represents the year 2022.

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 *EN 15804*.

Verification

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



Matthias Klingler,
(Independent verifier)

Product

Product description/Product definition

The new generation of dormakaba SVP emergency escape locks is ideally suited for use in emergency exits and escape routes, as well as in fire and smoke doors. Any door can be safely protected with the emergency escape function and the self-locking action.

SVP 2000:

- Motor lock with electrical process control for increased protection
- LED displays the status of the lock
- Feedback contacts for status monitoring of latch, bolt cylinder and handle
- Simple integration in door management systems or access controls through operational modifications
- DCW® bus, CAN bus or stand-alone mode autonomously or with control unit for additional functions
- Direct connection e.g. via the integrated BUS to dormakaba ED revolving door drives or a SafeRoute escape route security system

SVP 2000F:

- Same function as SVP 2000, additionally certified for the use in fire and smoke doors
- With integrated power reserve module (PR module) inside the lock body for a safe reclosing in case of power loss

SVA 2000:

- Same function as SVP 2000, but for active leaf of double doors
- Direct bus connection to SVI 2000 F for a fully motorized two leaf door

SVA 2000F:

- Same Function as SVP 2000 F, but for the active leaf of double doors
- Direct bus connection to SVI 2000 F for a fully motorized two leaf fire / smoke door

SVI 2000F:

- Self-locking motor lock for the passive door leaf of fire and smoke doors
- With integrated power reserve module (PR module) inside the lock body for a safe reclosing in case of power loss
- Status message for lock rod and lever handle
- Integrated LED with status display for maintenance/error display
- Operation modes: Analogue with control unit, via DCW® or CAN-BUS or autonomously without control unit
- With top and bottom rod lock systems

For the placing on the market of the product in the European Union/European Free Trade Association (EU/EFTA) (with the exception of Switzerland) Regulation (EU) No. 305/2011 (CPR)

applies. 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

Motor Locks can be used for securing single and double-leaf doors that are permanent escape and emergency routes from the inside, but may only be used by authorised persons from the outside.

Technical Data

The Motor Locks have following technical properties:

Features	SVP 2000	SVP 2000 F	SVA 2000	SVA 2000 F	SVI 2000 F
Approvals: Fire and smoke doors, EN 179/1125	• ²⁾	•	• ²⁾	•	•
Emergency escape function (Door opening via lever handle/pushbar) - Panic E	•	•	•	•	•
Mechanical self-locking	•	•	•	•	•
European Profile Cylinder (PC) or Swiss Round cylinder (RC)	•	•	•	•	•
Mechanical process controlled locking action (manipulation protection)	•	•	•	•	•
Electrical sequential controlled locking action (manipulation protection)	•	•	•	•	•
DCW / CAN Bus interface and Standalone (Mode switchable via Key/Lever)	•	•	•	•	•
Insurance Compliant locking (dual-point locking device)	•	•	•	•	•
Feedback contacts for status monitoring	•	•	•	•	•
Electrical motorised unlocking suitable for automatic doors	•	•	•	•	•

• = Available – = Not available

2) A power reserve module must be used in fire and smoke doors

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	10	%
Electronics	7	%
Plastics	2	%

The product/s include/s partial articles which contain substances listed in the Candidate List of REACH Regulation 1907/2006/EC (date: 17.01.2023) 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 Motor Locks SVx 2000(F) series amounts to 20 years and depends on the application and frequency of use. For repairs or renewals, suitable spare parts are available. They are tested certified to EN 14846, meaning they are designed to withstand a minimum of 200.000 uses.

LCA: Calculation rules

Declared Unit

The declared unit is 1 piece of the product including packaging: SVA 2000F.

Name	Value	Unit
Declared unit	1	piece/product
Mass	0.99	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, 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.

LCA: Scenarios and additional technical information

Characteristic product properties biogenic carbon

The biogenic carbon content quantifies the amount of biogenic carbon in a construction product leaving the factory gate, and it shall be separately declared for the product and for any accompanying packaging.

If the total mass of biogenic carbon containing materials is less than 5 % of the total mass of the product and accompanying packaging, the declaration of biogenic carbon content may be omitted. The mass of packaging containing biogenic carbon shall always be declared.

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

Information on describing the biogenic Carbon Content at factory gate

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

Transport to the building site (A4)

Name	Value	Unit
Litres of fuel (per 1kg)	0.00276	l/100km
Transport distance via truck (from dormakaba logistic center to harbor)	300	km
Transport distance via truck (for scaling)	100	km
Capacity utilisation (including empty runs)	55	%
Transport distance via ship	15.000	km

The product is transported via truck and ship. 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	10	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.

Name	Value	Unit
Collected separately	0.94	kg
Recycling	0.87	kg
Energy recovery	0.02	kg
Final deposition	0.05	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: 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; ND = 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 Motor Lock

Parameter	Unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
GWP-total	kg CO ₂ eq	5.36E+00	8.32E-02	6.45E-02	3.97E+01	0	4.13E-03	1.42E-01	7.6E-04	-1.64E+00
GWP-fossil	kg CO ₂ eq	5.5E+00	8.16E-02	1.62E-03	3.95E+01	0	3.95E-03	5.01E-02	7.55E-04	-1.64E+00
GWP-biogenic	kg CO ₂ eq	-1.46E-01	1.59E-03	6.29E-02	7.33E-02	0	1.83E-04	9.14E-02	2.58E-06	2.1E-03
GWP-luluc	kg CO ₂ eq	4.87E-03	1.79E-06	1.06E-06	5.54E-02	0	9.41E-08	3.65E-06	2.17E-06	-1.44E-03
ODP	kg CFC11 eq	6.91E-11	8.08E-18	1.16E-17	5.69E-13	0	4.17E-19	3.59E-17	2.8E-18	-1.43E-15
AP	mol H ⁺ eq	3.32E-02	1.82E-03	1.81E-05	1.85E-01	0	3.96E-06	2.2E-05	5.41E-06	-1.16E-02
EP-freshwater	kg P eq	1.41E-05	1.8E-08	2.27E-09	7.23E-05	0	8.46E-10	5.6E-09	1.3E-09	-1.06E-06
EP-marine	kg N eq	4.55E-03	4.83E-04	6.52E-06	2.97E-02	0	1.26E-06	6.28E-06	1.39E-06	-1.25E-03
EP-terrestrial	mol N eq	4.89E-02	5.29E-03	8.13E-05	3.2E-01	0	1.4E-05	1.02E-04	1.53E-05	-1.35E-02
POCP	kg NMVOC eq	1.41E-02	1.35E-03	1.73E-05	8.62E-02	0	3.56E-06	1.72E-05	4.22E-06	-4.2E-03
ADPE	kg Sb eq	4.95E-04	2.24E-09	1.84E-10	7.83E-06	0	1.19E-10	5.17E-10	6.78E-11	-1.67E-04
ADPF	MJ	7.01E+01	1.06E+00	2.04E-02	5.86E+02	0	5.6E-02	4.25E-02	9.9E-03	-1.79E+01
WDP	m ³ world eq deprived	9.63E-01	1.52E-04	8E-03	8.38E+00	0	7.74E-06	1.46E-02	7.91E-05	-3.7E-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 Motor Lock

Parameter	Unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
PERE	MJ	1.76E+01	3.41E-03	5.5E-01	2.14E+02	0	1.77E-04	6.22E-01	1.3E-03	-1.93E+00
PERM	MJ	1.16E+00	0	-5.46E-01	0	0	0	-6.12E-01	0	0
PERT	MJ	1.88E+01	3.41E-03	3.7E-03	2.14E+02	0	1.77E-04	9.59E-03	1.3E-03	-1.93E+00
PENRE	MJ	6.98E+01	1.06E+00	2.04E-02	5.86E+02	0	5.61E-02	6.82E-01	9.91E-03	-1.79E+01
PENRM	MJ	6.4E-01	0	0	0	0	0	-6.4E-01	0	0
PENRT	MJ	7.04E+01	1.06E+00	2.04E-02	5.86E+02	0	5.61E-02	4.25E-02	9.91E-03	-1.79E+01
SM	kg	4.19E-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	3.46E-02	6.16E-06	1.88E-04	2.99E-01	0	3.17E-07	3.44E-04	2.5E-06	-1.36E-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 Motor Lock

Parameter	Unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
HWD	kg	6.71E-07	1.03E-10	3E-11	2.75E-07	0	5.44E-12	1E-10	1.51E-10	-6.64E-07
NHWD	kg	2.05E-01	1.08E-04	2.02E-03	3.6E-01	0	5.74E-06	5.73E-03	4.98E-02	-3.29E-02
RWD	kg	2.43E-03	1.16E-06	1.07E-06	6.54E-02	0	6.02E-08	1.98E-06	1.13E-07	-2E-04
CRU	kg	0	0	0	0	0	0	0	0	0
MFR	kg	0	0	0	0	0	0	8.26E-01	0	0
MER	kg	0	0	0	0	0	0	0	0	0
EEE	MJ	0	0	9.76E-02	0	0	0	2.4E-01	0	0
EET	MJ	0	0	1.77E-01	0	0	0	4.85E-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 Motor Lock

Parameter	Unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
PM	Disease incidence	3.74E-07	3.07E-08	1E-10	2.63E-06	0	2.08E-11	1.78E-10	6.7E-11	-1.42E-07
IR	kBq U235 eq	2.65E-01	1.66E-04	1.66E-04	1.05E+01	0	8.6E-06	2.56E-04	1.16E-05	-1.79E-02
ETP-fw	CTUe	3.62E+01	7.48E-01	9.67E-03	2.12E+02	0	3.97E-02	1.72E-02	5.66E-03	-5.35E+00
HTP-c	CTUh	2.23E-07	1.41E-11	5.11E-13	7.99E-09	0	7.47E-13	1.31E-12	8.38E-13	-1.32E-09
HTP-nc	CTUh	9.66E-08	6.4E-10	2.22E-11	3.2E-07	0	3.2E-11	9.44E-11	9.24E-11	-1.23E-08
SQP	SQP	3.12E+01	2.77E-03	5.4E-03	1.59E+02	0	1.44E-04	1.23E-02	2.06E-03	-1.43E+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 nor due to 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 “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 or as there is limited experienced 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 1.2, Institut Bauen und Umwelt e.V., www.ibu-epd.com, 2017



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