ENVIRONMENTAL PRODUCT DECLARATION

as per *ISO 14025* and *EN 15804*

Owner of the Declaration	dormakaba International Holding GmbH
Programme holder	Institut Bauen und Umwelt e.V. (IBU)
Publisher	Institut Bauen und Umwelt e.V. (IBU)
Declaration number	EPD-DOR-20210082-IBI1-EN
Issue date	28.06.2021
Valid to	27.06.2026

Automatic Sliding Door ST PRO Green

dormakaba

Institut Bauen und Umwelt e.V.

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ECO PLATFORM EPD EN 15804 VERIFIED

1. General Information

dormakaba

Automatic Sliding Door
ST PRO GREEN

Programme holder
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Owner of the declaration
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Declaration number
EPD-DOR-20210082-IBI1-EN

Declared product / declared unit
The declared unit is one piece of the ST PRO Green automatic sliding door system comprising:

- representative value of the ES PROLINE drive system
- two sliding panels
- respective packaging materials.

The LCA results for two side screens and a fanlight are presented in the appendix.

This declaration is based on the product category rules:
Automatic doors, automatic gates, and revolving door systems, 11.2017
(PCR checked and approved by the SVR)

Scope:
This EPD refers to the entire life cycle of a DORMA ST PRO GREEN automatic sliding door system.

The various technical characteristics are outlined in section 2.3. The production location is dormakaba Zusmarshausen, Germany. Product components are also procured from the DORMA facilities in Ennepetal. The material and energy flows were taken into consideration accordingly.

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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.

Verification

The standard *EN 15804* serves as the core PCR
Independent verification of the declaration and data according to *ISO 14025:2010*
☐ internally ☒ externally

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

Dr. Alexander Röder
(Managing Director Institut Bauen und Umwelt e.V.))

Dr.-Ing. Wolfram Trinius
(Independent verifier appointed by SVR)

2. Product

2.1 Product description/Product definition

The ST PRO GREEN convinces with its comprehensive energy efficiency:

The slim profile system can be used with double and triple glazing, whereby UD values of down to 1.0 W/(m²·K) (glass heat transfer coefficient) can be realized.
Together with the thermally separated profile the energy losses are minimized.

Thanks to the new ES PROLINE drive system single door leaves up to 250kg and double door leaves up to 200kg each can be moved quickly and quietly.
The low energy consumption of the sliding door drive also contributes to the overall energy efficiency of the sliding door system.
The drive is suitable for almost all sliding door applications, including use on escape route sliding doors.

For the placing on the market in the European Union/European Free Trade Associaton (EU/EFTA) (with the exception of Switzerland) the following legal provisions apply:

- *Machinery Directive 2006/42/EC*
- *2014/30/EU Electromagnetic Compatibility Directive*
- *2011/65/EU ROHS3 Directive*
- *DIN EN ISO 12100:2011-03 Safety of machinery*
- *DIN EN 16005: 2013-01 and Amendment 2015-10 Power operated pedestrian doorsets*
- *DIN EN ISO 13849- 1:2016-06 Safety of machinery*
- *DIN EN 60335-2-103: 2016-05 Household and similar electrical appliance*
- *DIN EN 61000-3-2:2015-03 Electromagnetic compatibility (EMC)*
- DIN EN 61000-3-3: 2014-03 Electromagnetic compatibility (EMC)
- *DIN EN 61000-6-2: 2005 and Amendment:2011 Electromagnetic Compatibility (EMC)*
- DIN *EN 61000-6-3:2007 and A1:2011 Electromagnetic Compatibility (EMC)*
- *DIN EN IEC 63000: 2019-05*

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

2.2 Application

With the sliding door profile system both standard sliding doors and escape route sliding doors can be equipped. Following automatic ES PROLINE drive system can be used:

Door parameter	*ES 250 PRO ES 250 PRO FST ES 250 PRO EASY*	*ES 400 PRO ES 400 PRO FST*	*ES 250 PRO ES 250 PRO FST ES 250 PRO EASY*	*ES 400 PRO ES 400 PRO FST*
Use in escape and rescue routes	✓	✓	✓	✓
	Single-panel sliding door		*Double-panel sliding door*	
Opening width (mm)	*700-3000 mm*	*700-3000 mm*	*800-3000 mm*	*800-3000 mm*
Door panel weight max. (kg)	*1x125kg*	*1x250 kg*	*2x125 kg*	*2x200 kg*

2.3 Technical Data

Technical data of the ES PROLINE drive systems used for ST PRO GREEN standard and emergency exit sliding doors

Constructional data ES PROLINE

Name	Value	Unit
Height	mm	100
Installation depth 180	mm	180
Opening and closing force 150	N	150
Opening speed ES 250 PRO 10-70	cm/s	10-70
Opening speed ES 400 PRO 10-90	cm/s	10-90
Opening speed ES 250 PRO Easy 10-70	cm/s	10-70
Opening speed ES 250 PRO FST 20-70	cm/s	20-70
Opening speed ES 400 PRO FST 20-90	cm/s	20-90
Closing speed ES 250 PRO 10-70	cm/s	10-70
Closing speed ES 400 PRO 10-90	cm/s	10-90
Closing speed ES 250 PRO Easy 10-70	cm/s	10-70
Hold open time ES PROLINE 0-180	s	0-180
Supply voltage, frequency ES PROLINE 50-60	Hz	50-60
Power input ES PROLINE 130-180	W	130-180
Protection type IP 120	-	120
Low-voltage and EMC Directives -	-	-

Product not harmonised in accordance with the CPR but in accordance with other provisions for harmonisation of the EU:

- M*achinery Directive 2006/42/EC*
- *2014/30/EU Electromagnetic Compatibility Directive*
- 2011*/65/EU ROHS3 Directive*

2.4 Delivery status

As an automatic sliding door involves a customised door system, shapes and sizes can vary considerably. The ST PRO Green under review has the following delivery status:

Characteristics	Dimensions
Clear height	2.2 m
Total height	2.3 m
Clear width	1.6 m
Total width	3.3 m
Surface area	4.07 m^2

The components associated with these dimensions have the following weights:

Components	Absolute
1 x drive system	24.46 kg
1 x drive system packaging	3.00 kg
2 x sliding panel	180.35 kg
Total	**207.83 kg**

The ES PROLINE automatic drive system is supplied in a separate box; the sliding panels and side screens are supplied on frames.

2.5 Base materials/Ancillary materials

Mass percentages of the automatic sliding door system:

Components	Percentage
Glass panes	71%
Aluminum components	16%
Steel components	6%
Plastic components	5%
Electronic components	1%
Other	<1%
Total	**100%**

The products include partial articles which contain substances listed in the *candidate list* of REACH Regulation 1907/2006/EC (date: 19.01.2021) 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).

This product/article/at least one partial article contains other carcinogenic, mutagenic, reprotoxic (CMR) substances in categories 1A or 1B which are not on the candidate list, exceeding 0.1 percentage by mass: no.

Biocide products were added to this construction product or it has been treated with biocide products (this then concerns a treated product as defined by the (EU) Ordinance on Biocide Products No. 528/2012): no.

2.6 Manufacture

The ST PRO Green sliding panels and side screens are manufactured in the DORMA plant Zusmarshausen. The ES PROLINE drive units and requisite circuit boards are manufactured at dormakaba. The certified Quality Management system in accordance with *ISO 9001* safeguards the high quality standard of dormakaba products. It guarantees continuous improvement of the overall processes and product quality at the dormakaba locations.

2.7 Environment and health during manufacturing

No health protection measures beyond the legally specified measures are required.
The maximum allowable concentrations are clearly complied with at each point of production.

Air:
Waste air generated during production is cleaned in accordance with statutory specifications. Emissions are significantly below the Technical Instructions on Air Quality.

Water/Ground:
No contamination of water or ground.
Production-related waste/water is treated internally and redirected to the production process.

Sound protection:
Analyses have established that all values communicated inside and outside the production facilities are far below the standards applicable in Germany.

The Environmental Management system in the dormakaba production facility Ennepetal and Zusmarshausen is certified to *ISO 14001*; industrial safety is certified to *OHSAS 18001*.

2.8 Product processing/Installation

The product system is installed by specially-trained assembly teams.

2.9 Packaging

The declared unit comprises the following packaging materials and their mass percentages:

Components	Percentage
Paper and Cardboard	89%
Wood	10%
Foil	1%
Total	**100%**

More information on the possible disposal of packaging is provided in section 2.14 and 2.15.

2.10 Condition of use

No auxiliaries or consumables are incurred during maintenance, and use of the sliding door system ST PRO GREEN. Regular maintenance is advised to ensure a service life of 15 years.
For repairs or renewals, suitable spare parts are available. The energy supply for the analysed sliding door has been calculated for the reference service life of 15 years.

2.11 Environment and health during use

There are no known impact relations between product, environment and health during use.

2.12 Reference service life

The reference service life amounts to 15 years. This complies with 1,500,000 cycles according to *EN 16005*.

2.13 Extraordinary effects

Fire
Due to the predominant use of aluminium and steel which are considered non-flammable or flame-retardant, no additional influence on the environment in case of fire is to be expected.

Fire protection

Name	Value
Building material class	not applicable
Burning droplets	not applicable
Smoke gas development	not applicable

Water
No substances are used which have a negative impact on the ecological water quality upon contact by the device with water.

Mechanical destruction
No impacts on the environment are expected in the case of an unforeseeable mechanical destruction.

2.14 Re-use phase

With reference to the material composition of the product system in accordance with section 2.5, the following possibilities arise:

Re-use
During refurbishment or deconstruction, sliding doors can be easily segregated and reused for the same application.

Material recycling
The metallurgical materials and glass contained in the product are suitable for material recycling.

Energy recovery
The plastics contained in the product are suitable for energetic recovery.

Landfilling
Is not applicable.

2.15 Disposal

Cuttings:
Cuttings incurred during the manufacturing phase are directed towards metallurgical recycling and energy recovery. Cuttings are collected separately and collected by a disposal company.

Following European Waste Catalogue (*EWC*) Codes are
relevant:

- *EWC* 07 02 03 Plastic waste
- *EWC* 12 01 01 Ferrous metal filings and turnings
- *EWC* 12 01 03 Non-ferrous metal filings and turnings

Packaging:
Packaging incurred for installation in the building is directed towards energy recovery.

- *EWC* 15 01 01 Paper and cardboard packaging
- *EWC* 15 01 02 Plastic packaging

End of Life:
All materials contained in the product are directed to energy recovery or recycling process.

- *EWC* 16 02 14 Used devices with the exception of those included in 16 02 09 to 16 02 1
- *EWC* 16 02 16 Components removed from used devices with the exception of those included in 16 02 15
- *EWC* 17 02 03 Plastic
- *EWC* 17 04 02 Aluminum
- *EWC* 17 04 05 Iron and steel
- *EWC* 17 04 11 Cables with the exception of those included in 17 04 10
- *EWC* 17 02 02 Glass

2.16 Further information
Contact data for more detailed information:
Please refer to the last page of this Declaration

3. LCA: Calculation rules

3.1 Declared Unit
The declared unit is one (1) piece ST PRO Green. The declared unit consists of the drive system and two sliding panels. The LCA results of two side screens and a fanlight are presented in the appendix.

Declared unit

Name	Value	Unit
Declared unit for automatic doors and gates	4.07	m^2
Grammage	50.32	kg/m^2
Mass (total system)	204.83	kg
Conversion factor to 1 kg	0.005	-

3.2 System boundary
Type of the EPD: cradle to gate - with options

Modules A1-A3, A4, and A5
The product stage (A1-A3) begins with considering the production of the necessary raw materials and energies, including all corresponding upstream chains and the actual procurement transports. Furthermore, the entire manufacturing phase was mapped, including the treatment of production waste until the end-of-waste status (EoW) was reached. In addition, both the distribution transports (A4) and the installation including power-consuming tools, installation materials and the packaging waste generated during installation (A5) were taken into account.

Module B6
Module B6 includes the operational energy use over the Reference Service Life of 15 years.

Modules C1-C4
The modules include the environmental impacts for dismantling of the ST PRO Green and the treatment of the waste categories until end-of-waste status (EoW) is reached, including the associated transports at the end of the product life cycle.

Module D
Identification of the benefits and costs of the product outside the system boundary. For plastics, these consist of energy credits from thermal utilization (C3) in the form of the average European electricity mix or thermal energy from natural gas. Recycling of glass and metal scrap results in credits of the respective raw materials.

3.3 Estimates and assumptions
It was assumed that End-of-Life thermal waste incineration plants are plants with an R1 factor (energy conversion efficiency or energy efficiency of waste

incineration plants according to the *European Waste Framework Directive*) >0.6.

3.4 Cut-off criteria

The effect associated with the neglected mass shares is less than 5% of the effect categories per module. The minimum limit of 1% total mass and the use of renewable and non-renewable primary energy is not exceeded.

3.5 Background data

The LCA software *GaBi 10.0* was used to model the life cycle. The entire manufacturing process, as well as energy consumption, were modelled on the basis of manufacturer-specific data.
However, generic background datasets were used for the upstream and downstream processes. The majority of the background datasets used were taken from the current version of the *GaBi 10.0* database. *Ecoinvent Version 3.6* and *Ecoinvent Version 2.2* datasets were only used when suitable *GaBi 10.0* datasets were not available.

Where possible, German datasets were used for modules A1-A3, and the corresponding European datasets for distribution transports (A4), installation (A5) and disposal scenarios (C modules).

3.6 Data quality

The background datasets used for accounting purposes mainly originate from the respective updated *GaBi 10.0* databases at the time of calculation.

The data for the examined products was captured on the basis of evaluations of internal production and environmental data, the collection of LCA--relevant data within the supply chain, as well as the evaluation of relevant data for the energy supply. The collected data were checked for plausibility and consistency. Good representativity can be assumed.

3.7 Period under review

Life cycle assessment data were collected in 2019 and 2020.

3.8 Allocation

All required energies, raw materials, and supplies could be (clearly) assigned to the declared product. No by--products are produced and no allocation is required. In module A1--A3, credits are issued for recycling of metallurgical waste. Packaging materials and the combustible product parts are incinerated at the end of life in a waste incineration plant. Metallurgical parts and glass are recycled. Any emissions that occur are taken into account in the model. Depending on their elementary composition and the resulting heating values, recycling credits are taken into account in module D.

3.9 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.

The background database used is *GaBi 10.0* Content Version 2020.2.

4. LCA: Scenarios and additional technical information

Transport to the building site (A4)

Name	Value	Unit
Litres of fuel	unknown	l/100km
Transport distance (Truck)	596	km
Capacity utilisation (including empty runs) (Truck)	55	%
Gross density of products transported	unknown	kg/m³
Capacity utilisation volume factor	unknown	-

Installation into the building (A5)

Name	Value	Unit
Auxiliary (screws and screw anchors)	0.155	kg
Electricity consumption	0.04	kWh

Reference service life

Name	Value	Unit
Life Span according to the manufacturer	15	a

Operational energy use (B6) and Operational water use (B7)

Name	Value	Unit
Electricity consumption (15 years)	988.49	kWh

End of life (C1-C4)

Name	Value	Unit
Collected separately waste type	204.97	kg
Collected as mixed construction waste	-	kg
Reuse	-	kg
Recycling	192.78	kg
Energy recovery	12.2	kg
Landfilling	-	kg

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

Name	Value	Unit
Net steel scrap	8.39	kg
Net aluminium scrap	6.65	kg
Net zinc scrap	0.85	kg
Collection rate	100	%
Recycling loss	0	%

5. LCA: Results

The following table shows the results of the LCA for 1 piece declared ST PRO Green. The results in module B6 are based on a lifetime of 15 years. The LCA results for two side screens and a fanlight are presented in the appendix.

DESCRIPTION OF THE SYSTEM BOUNDARY (X = INCLUDED IN LCA; MND = MODULE 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: 1 piece ST PRO Green

Parameter	Unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
GWP	[kg CO_2-Eq.]	5.90E+2	1.02E+1	4.99E+0	3.90E+2	8.22E-3	4.91E-1	3.23E+1	0.00E+0	-1.04E+2
ODP	[kg CFC11-Eq.]	1.13E-5	1.68E-15	5.95E-15	1.17E-11	2.46E-16	1.43E-16	1.63E-7	0.00E+0	-4.83E-8
AP	[kg SO_2-Eq.]	4.22E+0	4.32E-2	2.23E-3	8.19E-1	1.73E-5	2.09E-3	3.17E-2	0.00E+0	-4.48E-1
EP	[kg $(PO_4)^{3-}$-Eq.]	8.97E-1	1.08E-2	3.36E-4	9.06E-2	1.91E-6	5.23E-4	1.74E-2	0.00E+0	-5.19E-2
POCP	[kg ethene-Eq.]	2.53E-1	-1.82E-2	2.01E-4	5.83E-2	1.23E-6	-7.85E-4	1.69E-3	0.00E+0	-3.18E-2
ADPE	[kg Sb-Eq.]	6.13E-2	8.51E-7	2.35E-5	1.30E-4	2.75E-9	4.60E-8	7.47E-5	0.00E+0	-3.73E-3
ADPF	[MJ]	8.42E+3	1.40E+2	9.73E+0	4.32E+3	9.11E-2	6.71E+0	5.24E+1	0.00E+0	-1.19E+3

Caption	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

RESULTS OF THE LCA - RESOURCE USE: 1 piece ST PRO Green

Parameter	Unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
PERE	[MJ]	1.18E+3	7.86E+0	3.91E+1	3.10E+3	6.53E-2	3.91E-1	1.40E+1	0.00E+0	-3.47E+2
PERM	[MJ]	3.98E+1	0.00E+0	-3.77E+1	0.00E+0	0.00E+0	0.00E+0	-2.06E+0	0.00E+0	0.00E+0
PERT	[MJ]	1.22E+3	7.86E+0	1.36E+0	3.10E+3	6.53E-2	3.91E-1	1.19E+1	0.00E+0	-3.47E+2
PENRE	[MJ]	8.96E+3	1.40E+2	1.08E+1	7.00E+3	1.47E-1	6.74E+0	5.15E+2	0.00E+0	-1.34E+3
PENRM	[MJ]	4.56E+2	0.00E+0	-3.44E-1	0.00E+0	0.00E+0	0.00E+0	-4.56E+2	0.00E+0	0.00E+0
PENRT	[MJ]	9.42E+3	1.40E+2	1.05E+1	7.00E+3	1.47E-1	6.74E+0	5.89E+1	0.00E+0	-1.34E+3
SM	[kg]	4.07E+1	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	1.55E+2
RSF	[MJ]	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
NRSF	[MJ]	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
FW	[m^3]	8.39E+0	9.10E-3	1.41E-2	3.59E+0	7.56E-5	4.34E-4	8.88E-2	0.00E+0	-4.02E+0

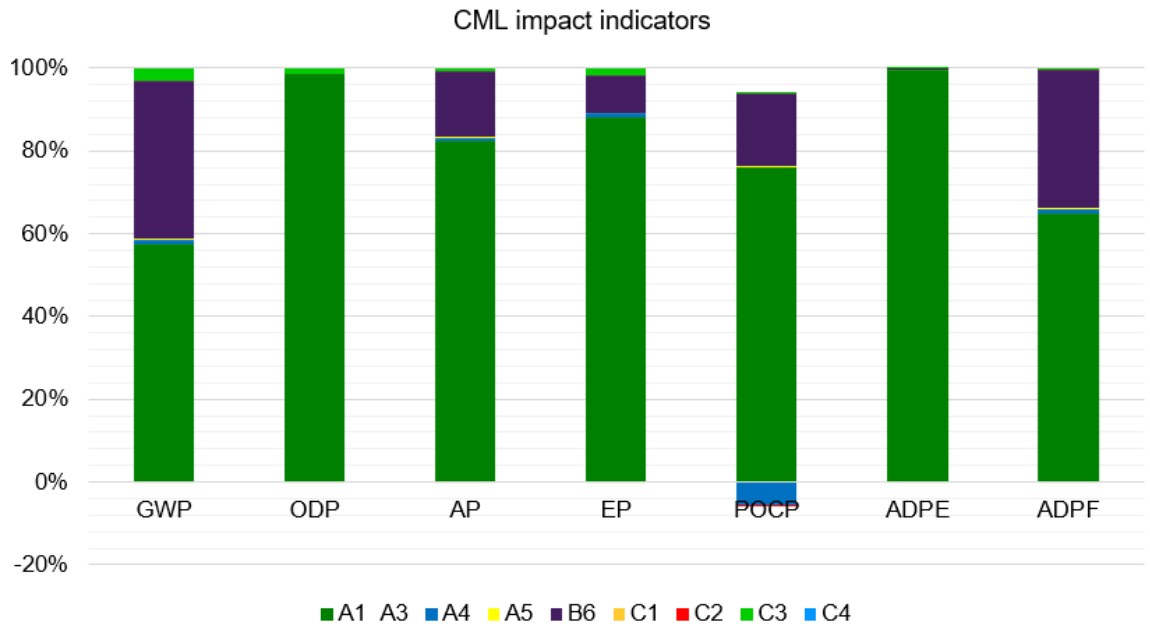
Caption	PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable 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 – OUTPUT FLOWS AND WASTE CATEGORIES: 1 piece ST PRO Green

Parameter	Unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
HWD	[kg]	1.57E-2	6.52E-6	2.41E-8	2.90E-6	6.10E-11	3.00E-7	1.91E-7	0.00E+0	-2.68E-6
NHWD	[kg]	1.81E+2	2.14E-2	1.39E-1	4.96E+0	1.05E-4	1.09E-3	1.17E+1	0.00E+0	-1.66E+1
RWD	[kg]	3.08E-1	1.73E-4	3.15E-4	1.06E+0	2.24E-5	1.18E-5	1.57E-3	0.00E+0	-5.88E-2
CRU	[kg]	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
MFR	[kg]	8.87E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	1.93E+2	0.00E+0	0.00E+0
MER	[kg]	2.66E+0	0.00E+0	2.98E+0	0.00E+0	0.00E+0	0.00E+0	1.20E+1	0.00E+0	0.00E+0
EEE	[MJ]	0.00E+0	0.00E+0	6.57E+0	0.00E+0	0.00E+0	0.00E+0	3.82E+1	0.00E+0	0.00E+0
EET	[MJ]	0.00E+0	0.00E+0	1.19E+1	0.00E+0	0.00E+0	0.00E+0	2.81E+2	0.00E+0	0.00E+0

Caption	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; EEE = Exported thermal energy

6. LCA: Interpretation



The *CML* characterization factors were used for the evaluation. The results of the *CML* categories refer to the potential environmental impacts over a period of 100 years.

The main impacts lie in the modules A1-A3 and B6. The impacts in module B6 are due to the electricity mix used for modelling the electricity consumption over a period of 15 years. In the following, the main influences on the modules A1-A3 for the indicators will be explained.

Global warming potential (GWP) in modules A1-A3 is mainly influenced by the operator (35%), the glass (35%) and aluminium (20%).

Ozone depletion potential in module A1-A3 is mainly influenced by the electronic components of the operator (>90%).
Acidification potential (AP) in modules A1-A3 is dominated by the glass (48%) and the operator (27%).
Eutrophication potential (EP) in modules A1-A3 is dominated by the operator (71%) and there the electronic components. The glass also has a significant impact on the EP (23%).
Formation potential of tropospheric ozone photochemical oxidants (POCP) in modules A1-A3 is mainly influenced by the glass.
Abiotic depletion potential for non--fossil resources in modules A1-A3 is dominated by the operator (91%) and there the electronic components.
Abiotic depletion potential for fossil resources (ADPF) in modules A1-A3 is dominated by the glass (47%).

7. Requisite evidence

8. References

Standards

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
DIN EN 16005:2013-01 and Amendment 2015-10, Power operated pedestrian doorsets - Safety in use - Requirements and test methods.

EN 60335-2-103
DIN EN 60335-2-103:2016-05, Household and similar electrical appliances - Safety - Part 2-103: Particular requirements for drives for gates, doors and windows.

EN 61000-3-2
DIN EN 61000-3-2:2015-03, Electromagnetic compatibility (EMC) - Part 3-2: Limits - Limits for harmonic current emissions (equipment input current ≤ 16 A per phase).

EN 61000-3-3
DIN EN 61000-3-3:2014-03, Electromagnetic compatibility (EMC) - Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with

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