ENVIRONMENTAL PRODUCT DECLARATION

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

Owner of the Declaration	DYNACO Europe NV
Publisher	Institut Bauen und Umwelt e.V. (IBU)
Programme holder	Institut Bauen und Umwelt e.V. (IBU)
Declaration number	EPD-DYN-20250663-IBA1-EN
Issue date	17.11.2025
Valid to	15.07.2030

I-18P Overhead sectional door

DYNACO Europe NV

Institut Bauen und Umwelt e.V.

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1. General Information

DYNACO Europe NV

Programme holder

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

Declaration number

EPD-DYN-20250663-IBA1-EN

This declaration is based on the product category rules:

Automatic doors, automatic gates, and revolving door systems, 01.08.2021
(PCR checked and approved by the SVR)

Issue date

17.11.2025

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.)

I-18P Overhead sectional door

Owner of the declaration

DYNACO Europe NV
Waverstraat 21
9310 Moorsel
Belgium

Declared product / declared unit

This declaration represents 1 industrial sectional door with electrical operation 3600mm x 3600mm, water blown PUR foam CFC-free, panel thickness 82 mm and panel height 545 mm.

Scope:

This declaration and its LCA study are relevant to the Dynaco I-18P overhead sectional door.
The production location is Heerhugowaard, Netherlands, and components are sourced from an international tier one supplier.

Dynaco I-18P overhead sectional door size varies according to project requirements; a standard door 3600 mm wide and 3600 mm high with insulated panels filled with CFC-free polyurethane, panel thickness 82 mm, panel height 545 mm is used in this declaration.

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)

2. Product

2.1 Product description/Product definition

Product name: Dynaco I-18P
Product characteristic: High Insulated Overhead sectional door

The Dynaco I-18P Overhead sectional door is suitable for all types of buildings, with regard to both function and appearance. High flexibility makes it possible to install this door in almost every type of building. The door slides up under the roof when opened, allowing free space around the door opening and leaving the door opening completely free.

The door is made of insulated panels. The panels are designed without a thermal bridge to provide minimal thermal transmittance, which reduces energy cost. The surface is made of waffled steel. There are top, bottom and side seals and seals between door sections. The standard track system is made of galvanised steel. The balancing system balances the door by applying a force nearly equal to the weight of the door leaf. This allows the door leaf to be moved up and down, and to stay open in any position.

The balancing system supports heavy forces. In case of a spring or cable break, its counterforce is lost. The door is therefore equipped with two safety devices that can block downward door movement, Spring Break Device (standard) and Cable Break Device (standard).

The door has 4 primary parts:

1) Door leaf
2) Track set
3) Balancing system
4) Operating system/chain hoist (optional)

The Dynaco I-18P Overhead sectional door has been designed to meet all operational and safety requirements in the European Directives and the standards issued by the European Standardization Committee (CEN).

For the placing on the market in the EEA, Switzerland and Turkey the Construction Products Regulation (EU) No 305/2011 applies. The product needs a Declaration of Performance and CE marking under consideration of the Construction Products Regulation and the harmonized standard EN 13241:2003+A2:2016 Industrial, commercial and garage doors and gates — Product standard — Part 1: Products without fire resistance or smoke control characteristics.

Harmonised European standards and associated updated editions that have been applied:

EN 13241:2003+A2:2016 Industrial, commercial, garage doors and gates - Product standard, performance characteristics.

EN 12453:2017+A1:2022 Industrial, commercial and garage doors and gates – Safety in use of power operated doors – Requirements and test methods *EN 12604:2017+A1:2020*

EN 61000-6-3: 2021 Electromagnetic compatibility (EMC) - Part 6-3:
Generic standards - Emission standard for residential, commercial and light-industrial environments

EN 61000-6-2: 2019 Generic standards - Immunity for industrial environments

EN 12978:2003+A1:2009

EN 60335-1: 2012+A11:2014+A13:2017+A14:2019+A15:2021+A1:2019+A2:2019

EN 60335-2-103: 2015 Household and similar electrical appliances -
Safety-Part 2: Particular requirements for drives for gates, doors and windows.

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

Other standards or technical specifications, which have been applied:

- Wind load: *EN12424*
  Class 3 (Higher classes on request)
- Thermal transmittance: *EN12428*
  0,46 W/(m².K) Steel door (Door surface 5000x5000 mm)
- Water penetration: *EN12425* Class 3 (Door surface 4000 x 3310 mm)
- Air permeability: *EN12426* Class 3 (Door surface 4000 x 3310 mm)
- Acoustic insulation: *EN ISO 10140-2* R0=24dB (Door surface 4000 x 2500 mm)

The electrical unit as identified is compliant with the following directives:

2006/42/EC Machinery Directive (MD)
2014/30/EU Electromagnetic Compatibility Directive (EMCD)
2011/65/EU RoHS
2015/863/EU RoHS

For the application and use, the respective national provisions apply.

2.2 Application

The Dynaco I-18P Overhead sectional door is designed for a wide range of building applications, providing stability and insulation. Its flexible installation options allow it to be used in various types of buildings, ensuring efficient use of space around the door.

2.3 Technical Data

Below data presents the technical properties of the declared Dynaco I-18P overhead sectional door:

- Width[1]: 3600 mm
- Height[1]: 3600 mm
- Panel thickness: 82 mm
- Panel material: Waffled steel
- Panel filling: CFC-free water blown PUR
- Panel weight: 15 kg/m^2
- Colour outside: 13 standard RAL colours
- Colour inside: RAL 9002
- Track types: SL (Standard Lift), VL (Vertical Lift), HL (High Lift), LL (Low Lift)
- Safety devices: safety edge and optional stationary photocell
- Windows (optional): FARP[2]
- Locking unit: Lockbolt
- Passdoor: Not applicable
- Electrical operation, optional: Automated operation, Access control, Safety functions
- Opening/ closing speed: Up to 0,3 m/s
- Lifetime expectations: 200.000 door cycles or 10 years, when service/replacement program has been performed

[1]Other sizes available:

Maximum size (WxH): 8000 x 6000 mm (daylight width & height)
Minimum size (WxH): 2050 x 2150 mm (daylight width & height)
[2]Four layer Acrylic Rectangular Pane

Construction data

Name	Value	Unit
Heat transfer coefficient of the entire door acc. to EN 12428 (door surface 5000x5000 mm)	0.46	W/(m^{2}K)
Power input "Standby-mode"	2.4	W
Power input "On-mode"	7.78	W
Air permeability coefficient acc. to EN 12426 Class 3	6	m3/m2h
Water penetration acc. to EN12425 Class 3	>50	Pa
Airborne sound insulation acc. to EN ISO 10140-2	24	dB
Resistance to wind loads acc. to EN 12424 Class 3	700	N/m2

Performance data of the product in accordance with the declaration of performance with respect to its essential characteristics according to *EN 13241:2003+A2:2016*, Industrial, commercial, garage doors and gates - Product standard, performance characteristics.

2.4 Delivery status

Dynaco I-18P Overhead sectional door unit with door size of 3600 x 3600 mm is delivered in parts ready for installation. All necessary installation material is included. For every track type, Dynaco offers specific installation kits to position the door in the building façade.

2.5 Base materials/Ancillary materials

The average composition for declared Dynaco I-18P overhead sectional door is as following:

Name	Value	Unit
Aluminium	1.71	%
Brass	0.01	%
Copper	0.76	%
Plastics	22.95	%
Steel	74	%
Zinc	0.39	%
Electronic	0.18	%
Others	0.08	%

**Percentage in mass*

2.6 Manufacture

The final manufacturing processes occur at the factory in Heerhugowaard, The Netherlands. The electronics are produced in Ostrov, the Czech Republic.

The factory in Heerhugowaard has a certification of Quality Management system in accordance with *ISO 9001 & ISO 14001*.

Offcuts and scraps during the manufacturing process are directed to a recycling unit. Waste is sent for disposal. Waste codes according to European Waste Catalogue and Hazardous Waste List - Valid from 1 July 2015.

EWC 12 01 01 Ferrous metal filings and turnings
EWC 12 01 03 Non-ferrous metal filings and turnings
EWC 17 02 03 Plastic
EWC 17 04 01 Copper, bronze, brass
EWC 17 04 02 Aluminium
EWC 17 04 05 Iron and steel
EWC 17 04 11 Cables with the exception of those outlined in *EWC 17 04 10*

2.7 Environment and health during manufacturing

Dynaco is committed to producing and distributing door opening solutions with minimal environmental impact, where health & safety is the primary focus for all employees and associates.

- Environmental operations, GHG (Greenhouse Gas), energy, water, waste, Volatile organic compounds (VOC), surface treatment and H&S are being routinely monitored. Inspections, audits, and reviews are conducted periodically to ensure that applicable standards are met and Environment Management program effectiveness is evaluated.
- The Code of Conduct covers human rights, labour practices and decent work. Management of Dynaco is aware of their environmental roles and responsibilities, providing appropriate training, supporting accountability and recognising outstanding performance.
- The factory of Heerhugowaard, The Netherlands, has certification of Environmental Management to *ISO 14001*.
- Any waste metals during machining are separated and recycled.

2.8 Product processing/Installation

The door components are supplied ready for installation. The Dynaco I-18P door is shipped to the site in pre-assembled components. The components are assembled using simple tools, including drills and hand tools. The installation is performed by certified (or competent) installation technicians.

2.9 Packaging

Packaging exists for the purpose of protection during transportation. Dynaco I-18P overhead sectional door components are packaged in polystyrene plastic and corrugated cardboard. All of these packaging components are standard industry types. The cardboard is recyclable.

Material Value (%)
Cardboard/paper 69.8
Wood 5.7
Steel 2.3
Plastics 22.2
TOTAL 100.0%

All materials incurred during installation are sent to a waste incineration plant (wood paper and plastic) for their energy recovery.

Waste codes according to European Waste Catalogue and Hazardous Waste List - Valid from 1 July 2015.

EWC 15 01 01 Paper and cardboard packaging
EWC 15 01 02 Plastic packaging
EWC 15 01 03 Wooden packaging

2.10 Condition of use

Regular inspections by a trained and qualified person is recommended, a minimum of one visit per year or more. Monthly examination of the Dynaco I-18P overhead sectional door:

1. Use a soft brush and a mild detergent to clean the track set and the door seals.
2. Make sure there are no loose screws, bolts or nuts on the door leaf or the track set.
3. If necessary, tighten all loose screws, bolts and nuts.
4. Examine all door leaf hinges, door seals, rollers and roller holders for damage.
5. If damage is found, contact the local service center for advice.
6. Examine the door chains for damage and corrosion.
7. If damage or corrosion is found, contact the local service center for advice.
8. Lubricate the metal door-leaf hinges with oil (SAE 20).

2.11 Environment and health during use

There is no harmful emissive potential. No damage to health or impairment is expected under normal use corresponding to the intended use of the product.

2.12 Reference service life

The product has reference service life of 200.000 cycles which complies for 10 years of standard daily use (with the recommended yearly service check).
For this EPD the lifetime of 10 years was considered.

2.13 Extraordinary effects

Fire
Test has been conducted according to *EN13501-1*. The product is not fireproof. However, the product wall surfaces consist of a large amount of steel, which does not add to the spread of fire.

Fire protection

Name	Value
Building material class	C
Burning droplets	d0
Smoke gas development	s3

Water
Contains no substances that have any impact on water. In case of a flood, the electric operation of the device will be influenced negatively.

Mechanical destruction
No danger to the environment can be anticipated during mechanical destruction.

2.14 Re-use phase

The product is possible to be re-used during the reference service life and can be moved from one opening to another.

All recyclable materials are directed to a recycling unit where they are recycled (brass, electronics, electro-mechanics, stainless steel, steel, and aluminium).

On the other hand, the plastic components are sent to waste incineration plant for its energy recovery.

Waste codes according to European Waste Catalogue and Hazardous Waste List - Valid from 1 July 2015. *EWC 16 02 14* Used devices with the exception of those outlined in *EWC 16 02 09* to *EWC 16 02 13*

EWC 17 02 03 Plastic
EWC 17 04 01 Copper, bronze, brass
EWC 17 04 02 Aluminium
EWC 17 04 05 Iron and steel
EWC 17 04 11 Cables with the exception of those outlined in *EWC 17 04 10*

2.15 Disposal

The product can be mechanically disassembled to separate the different materials. The majority of components are steel and aluminium, which will be recycled.

The plastic components are used for energy recovery in an incineration plant. No disposal is foreseen for the product or for the corresponding packaging.

2.16 Further information

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Belgium

www.dynacodoor.com

3. LCA: Calculation rules

3.1 Declared Unit

The declaration refers to the functional unit of 1 piece of Dynaco I-18P overhead sectional door as specified in Part B requirements on the EPD IBU: PCR Automatic doors, automatic gates, and revolving door systems (door systems).

Declared unit and mass reference

Name	Value	Unit
Mass (without packaging)	302	kg
Mass packaging (paper wood, copper and plastics)	32.5	kg
Declared unit for sectional door systems (dimensions acc. to this PCR)	1	piece
Mass reference	302	kg/pce

3.2 System boundary

Type of the EPD: cradle to gate - with options. The following life cycle stages were considered:
Production stage:

- A1 – Raw material extraction and processing
- A2 – Transport to the manufacturer and
  A3 – Manufacturing

Construction stage:

- A4 - Transport from the gate to the site
- A5 – Packaging waste processing

Use stage related to the operation of the building includes:

- B6 – Operational energy use

End-of-life stage:

- C2 – Transport to waste processing,
- C3 – Waste processing for recycling and
- C4 – Disposal (landfill, waste for incineration).

This includes provision of all materials, products and energy, packaging processing and its transport, as well as waste processing up to the end-of-waste state or disposal of final residues.

Benefits and loads beyond the system boundaries:

- D – Declaration of all benefits and loads.

3.3 Estimates and assumptions

Transportation: Data on the mode of transport and distances, as reported by suppliers were used for those materials and parts contributing more than 2% of the total product mass.

Use stage:
For the use phase, it is assumed that the overhead sectional door is used in the European Union, thus a European electricity grid mix is considered within this stage. According to the most representative scenario, the operating hours of the product are accounted for 0.04 hours in on mode and 23.96 hours in stand-by per day (220 days per year in use, 10 years lifetime); the power consumption throughout the whole life cycle is 0.211 MWh.

EoL:
In the End-of-Life stage, for all the materials from the product which can be recycled (steel, aluminum, electronic parts, electro-mechanics, copper, stainless steel and brass), a recycling scenario with 100% collection rate was assumed. The plastic components are sent for energy recovery within a waste incineration process.

EoL is assumed to happen within EU-28. Furthermore, a transport distance by truck of 100 km has been assumed in the model.

3.4 Cut-off criteria

In the assessment, all available data from the production process are considered, i.e. all raw materials used, auxiliary materials (e.g. lubricants), and electric power consumption - including material and energy flows contributing less than 1 % of mass or energy (if available). In case a specific flow contributing less than 1 % in mass or energy is not available, worst case assumption proxies are selected to represent the respective environmental impacts.

Impacts relating to the production of machines and facilities required during production are out of the scope of this assessment.

3.5 Background data

For life cycle modelling of the considered product, Sphera's Life Cycle for Expert (LCA FE) software is used. Sphera Managed Lifecycle Content (MLC) modelling database is used as the background database of the study.

3.6 Data quality

The requirements for data quality and background data correspond to the specifications of the IBU PCR Part A.
Sphera performed a variety of tests and checks during the entire project to ensure a high quality of the completed project. This obviously includes an extensive review of project-specific LCA models as well as the background data used.
The technological background of the collected data reflects the physical reality of the declared products.
The datasets are complete and conform to the system boundaries and the criteria for the exclusion of inputs and outputs.
All relevant background datasets are taken from the Sphera MLC database.

3.7 Period under review

The period under review is 2023 (12-month average).

3.8 Geographic Representativeness

Land or region, in which the declared product system is manufactured, used or handled at the end of the product´s lifespan: Europe

3.9 Allocation

Regarding incineration, the software model for the waste incineration plant (WIP) is adapted according to the material composition and heating value of the combusted material. In this EPD, the following specific life cycle inventories for the WIP are considered:

- Waste incineration of paper
- Waste incineration of Plastic
- Waste incineration of Wood

Regarding the recycling material of metals, the metal parts in the EoL are declared as end-of-waste status. Thus, these materials are considered in module D. Specific information on allocation within the background data is given in the MLC dataset documentation.

3.10 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. Sphera's Managed LCA Content CUP 2020.1 serves as background database for the calculation.

4. LCA: Scenarios and additional technical information

Characteristic product properties of biogenic carbon

The following technical information is a basis for the declared modules or can be used for developing specific scenarios in the context of a building assessment if modules are not declared (MND).

Information on describing the biogenic carbon content at factory gate

Name	Value	Unit
Biogenic carbon content in product	-	kg C
Biogenic carbon content in accompanying packaging	10.69	kg C

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

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

Transport to the building site (A4)

Name	Value	Unit
Kg of fuel diesel with maximum load (27t payload)	27.51	kg/100km
Transport distance	750	km
Capacity utilisation (including empty runs) of a truck	61	%
Transport by ship	21	km

Installation into the building (A5)

Name	Value	Unit
Output substances following waste treatment on site (paper/cardboard packaging)	22.7	kg
Output substances following waste treatment on site (steel packaging)	0.75	kg
Output substances following waste treatment on site (wood packaging)	1.85	kg
Output substances following waste treatment on site (plastic packaging)	7.2	kg

Reference service life

Name	Value	Unit
Reference service life	10	a

Operational energy use (B6)

Name	Value	Unit
Electricity consumption per RSL (10 years, 220 days per year)	0.211	MWh
Hours per day in on mode	0.04	h
Hours per day in stand-by mode	23.96	h
Power consumption – on mode	7.78	W
Power consumption – stand-by mode	2.4	W

For the remaining days (145 days), the device is operating on standby.

*Total energy consumed during the whole product life was calculated using following formula:
((W_active_mode*h_active_mode+W_idle_mode*h_idle_mode +W_stand_by_mode*h_stand_by_mode)*Life_span*days_year)+(145* W_ stand_by_mode*Life_span)*0.001)

Where:

- W_active_mode - Energy consumption in active mode in W
- h_active_mode - Operation time in active mode in hours
- W_idle_mode - Energy consumption in idle mode in W
- h_idle_mode - Operation time in idle mode in hours
- W_stand_by_mode - Energy consumption in stand-by mode in W
- h_stand_by_mode - Operation time in stand-by mode in hours
- Life_span - Reference service life of product
- days_year - Operation days per year
- 0.001 - Conversion factor from Wh to kWh

End of life (C1-C4)

Name	Value	Unit
Transport to EOL (C2)	100	km
Collected separately aluminum, steel, brass, plastics, stainless steel, copper, electronics, electromechanics, zinc	301.76	kg
Incineration of plastic parts	69.25	kg
Recycling aluminium, steel, copper, electronics, electro-mechanics, stainless steel, zinc and brass	232.51	kg
Landfill	0.24	kg

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

Name	Value	Unit
Collected separately waste type (including packaging)	334.26	kg
Recycling aluminum	1.54	%
Recycling brass	0.01	%
Recycling copper	0.69	%
Incineration of plastic parts	20.72	%
Recycling steel	66.81	%
Recycling zinc	0.35	%
Recycling electronics	0.16	%
Incineration of packaging (paper, wood and plastic) (from A5)	9.5	%
Recycling of Packaging (Steel) (from A5)	0.22	%

5. 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 I-18P Overhead sectional door

Parameter	Unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
GWP-total	kg CO_2 eq	8.91E+02	2.02E+00	3.3E+01	8.52E+01	0	1.52E+01	1.97E+02	8.46E+00	-3.26E+02
GWP-fossil	kg CO_2 eq	9.81E+02	2E+00	1.63E+00	8.48E+01	0	1.51E+01	1.93E+02	8.45E+00	-3.25E+02
GWP-biogenic	kg CO_2 eq	-9.13E+01	1.29E-04	3.14E+01	2.83E-01	0	1.09E-03	3.86E+00	1.19E-03	-2.96E-01
GWP-luluc	kg CO_2 eq	9.81E-01	1.63E-02	1.3E-03	1.23E-01	0	1.22E-01	8.99E-03	8.13E-04	-1.04E-01
ODP	kg CFC11 eq	7.4E-08	2.41E-16	1.5E-14	1.87E-12	0	1.82E-15	9E-14	9.43E-15	9.43E-12
AP	mol H^+ eq	2.92E+00	2.06E-03	9.65E-03	1.87E-01	0	1.92E-02	3.34E-02	5.74E-03	-8.99E-01
EP-freshwater	kg P eq	3.15E-03	6.11E-06	4.98E-06	2.27E-04	0	4.58E-05	1.36E-05	2.06E-06	-2.23E-04
EP-marine	kg N eq	6.26E-01	6E-04	3.46E-03	4.16E-02	0	5.44E-03	8.77E-03	2.76E-03	-1.69E-01
EP-terrestrial	mol N eq	6.67E+00	7.23E-03	4.28E-02	4.37E-01	0	6.45E-02	1.34E-01	3.27E-02	-1.83E+00
POCP	kg NMVOC eq	2.09E+00	1.67E-03	9.14E-03	1.14E-01	0	1.51E-02	2.55E-02	7.1E-03	-5.37E-01
ADPE	kg Sb eq	1.53E+04	2.67E+01	1.61E+01	1.49E+03	0	2.02E+02	1.02E+02	7.8E+00	-3.87E+03
ADPF	MJ	3.62E-02	1.44E-07	2.12E-07	2.46E-05	0	1.08E-06	1.27E-06	1.01E-07	-2.42E-02
WDP	m^3 world eq deprived	4.01E+01	1.8E-02	4.04E+00	1.85E+01	0	1.35E-01	2.05E+01	1.84E+00	-1.65E+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 I-18P Overhead sectional door

Parameter	Unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
PERE	MJ	2.97E+03	1.5E+00	5.38E+02	0	0	1.13E+01	2.73E+01	2.14E+00	-5.89E+02
PERM	MJ	5.34E+02	0	-5.34E+02	0	0	0	0	0	0
PERT	MJ	3.51E+03	1.5E+00	3.99E+00	6.61E+02	0	1.13E+01	2.73E+01	2.14E+00	-5.89E+02
PENRE	MJ	1.24E+04	2.68E+01	1.89E+02	1.49E+03	0	2.02E+02	2.88E+03	7.79E+00	-3.89E+03
PENRM	MJ	2.95E+03	0	-1.73E+02	0	0	0	-2.78E+03	0	0
PENRT	MJ	1.54E+04	2.68E+01	1.61E+01	1.49E+03	0	2.02E+02	1.02E+02	7.79E+00	-3.89E+03
SM	kg	1.91E+02	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	3.91E+00	1.74E-03	9.62E-02	7.64E-01	0	1.31E-02	4.91E-01	4.35E-02	-1.35E+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 I-18P Overhead sectional door

Parameter	Unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
HWD	kg	1.32E-04	1.22E-04	1.25E-06	6.17E-07	0	9.34E-06	2.64E-07	3.86E-08	-2.16E-06
NHWD	kg	3.85E+01	3.48E+01	4.1E-03	1.06E+00	0	3.08E-02	1.85E+01	1.9E+00	-1.89E+01
RWD	kg	5.47E-01	4.82E-01	3.31E-05	2.26E-01	0	2.5E-04	7.21E-03	3.12E-04	-1.7E-01
CRU	kg	0	0	0	0	0	0	0	0	0
MFR	kg	2.61E+02	0	0	0	0	0	2.35E+02	0	0
MER	kg	7.66E+01	0	0	0	0	0	0	7.66E+01	0
EEE	MJ	4.84E+02	0	0	0	0	0	4.35E+02	0	0
EET	MJ	8.68E+02	0	0	0	0	0	7.8E+02	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 I-18P Overhead sectional door

Parameter	Unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
PM	Disease incidence	3.47E-05	1.23E-08	5.53E-08	1.57E-06	0	1.54E-07	4.04E-07	6.46E-08	-1.02E-05
IR	kBq U235 eq	7.56E+01	4.79E-03	1.11E-01	3.71E+01	0	3.61E-02	1.07E+00	2.83E-02	-3E+01
ETP-fw	CTUe	6.09E+03	1.89E+01	6.77E+00	6.38E+02	0	1.43E+02	6.57E+01	3.54E+00	-1.02E+03
HTP-c	CTUh	7.85E-07	3.96E-10	3.39E-10	1.76E-08	0	2.98E-09	3.49E-09	4.97E-10	-2.89E-07
HTP-nc	CTUh	2.32E-05	2.04E-08	1.56E-08	6.49E-07	0	1.54E-07	3.47E-07	3.23E-08	3.67E-07
SQP	SQP	1.09E+04	9.38E+00	4.62E+00	4.75E+02	0	7.04E+01	2.73E+01	2.63E+00	-3.41E+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.

6. LCA: Interpretation

The production stage (modules A1-A3) contributes between 52% and 100% to the overall results for all core environmental impact assessment categories, except for the global warming potential – biogenic (GWP-biogenic). This result is mainly related to the extraction of renewable raw materials (A1). Within the production stage, the main contribution to all the impact categories is the production of steel and aluminium mainly due to the energy consumption of these processes. These two materials account for approx. 75% of the overall mass of the product, therefore, the impacts are in line with the mass composition of the product. The environmental impacts for transport (A2) have a negligible impact within this stage.

To reflect the use stage (module B6), the energy consumption was included, and it has a contribution for all core impact assessment categories considered - between 4% and 14%, with the exception of ODP (0%), POCP (3%) and ADPE (0%). This is a result of 0.04 hours of operation in on mode and 23.96 hours in stand-by mode per day and per 220 days in a year.

In the end-of-life stage, there are loads and benefits (module D, negative values) considered. The benefits are considered beyond the system boundaries and are declared for the recycling potential of the metals and for the credits from the incineration process (energy substitution).

7. Requisite evidence

Not applicable in this EPD.

8. References

Standards

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EN ISO 14001:2015
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ISO 9001
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2006/42/EC
European directive on machinery, and amending Directive 95/16/EC (recast)

2011/65/EC
European directive on the restriction of the use of certain hazardous substances in electrical and electronical equipment, and its amendment directives including 2015/863/EC (RoHS directive)

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