# DAPcons®.100.204

## DECLARACIÓN AMBIENTAL DE PRODUCTO
## ENVIRONMENTAL PRODUCT DECLARATION

According to the standards:
ISO 14025 and UNE-EN 15804:2012+A2:2020/AC:2021

cateb
Arquitectura Tècnica
Barcelona

dapcons®

# DECLARACIÓN AMBIENTAL DE PRODUCTO
# ENVIRONMENTAL PRODUCT DECLARATION

**DAPcons®.100.204**

**According to the standards:**

ISO 14025 and UNE-EN 15804:2012+A2:2020/AC:2021

## GENERAL INFORMATION

### Product

**GLOBAL Series panic exit device**

### Company

### Product description

The GLOBAL series is a range of TESA ASSA ABLOY PANIC EXIT DEVICES, Type A or push type, operated by means of a steel tube. Suitable for fire doors, they are CE certified according to UNE-EN1125. They stand out for their easy reversibility and for their narrow supports for small profile dimensions.

### Reference RCP

RCP 100 (version 3 - 27/05/2021) Construction products in general

### Production plant

Aranburuzabala Kalea, 23, 20540 Eskoriatza (Gipuzkoa, Basque Country)

### Validity

From: 14/10/2024 Until: 14/10/2029

The validity of DAPcons®.100.204 is subject to the conditions of the regulation DAPcons®. The current edition of this DAPcons® is the one that appears in the registry maintained by Cateb; for informational purposes, it is included on the Program website www.csostenible.net

# EXECUTIVE SUMMARY

**GLOBAL Series panic exit device**

**DAPconstruction® Programme Operator**
Environmental Product Declarations in the Construction sector
www.csostenible.net

**Programme Manager**
Colegio de la Arquitectura Técnica de Barcelona (Cateb)
Bon Pastor, 5 · 08021 Barcelona www.apabcn.cat

**Owner of the declaration**
Talleres de Escoriaza SAU
Barrio Ventas 35 20305 - IRUN (España)
www.tesa.es

**Author of the Life cycle assessment:**
ECOPENTA SL
C/ Tuset 19, 1º 3ª, 08006 - BARCELONA, España

## Declared product

GLOBAL Series panic exit device

## Geographic representation

The raw materials of the product are globally sourced. The product is manufactured in Eskoriatza (Guipuzkoa, Basque Country, Spain) and distributed globally.

## Variability between different products

>10%. Hence the worst case based on design and weight is declared.

## Declaration number

DAPcons®.100.204

## Issue date

18/01/2024

## Validity

This verified declaration authorizes its holder to carry the logo of the operator of the ecolabelling program DAPconstruction®. The declaration is applicable exclusively to the mentioned product and for five years from the date of registration. The information contained in this statement was provided under the responsibility of: **Talleres de Escoriaza SAU**

## Programme Administrator Signature

Celestí Ventura Cisternas. President of Cateb

## Verifier Signature

Josep Manuel Giner Pallarés. ReMa-INGENIERIA, S.L.. Verifier accredited by the administrator of the DAPcons® Programme

36548201M CELESTINO VENTURA (R: Q0875009C)
36548201M CELESTINO VENTURA (R: Q0875009C) 28.10.2024 14:13:34 +0100

GINER PALLARES JOSEP MANUEL - 18909128T
GINER PALLARES JOSEP MANUEL - 18909128T 28.10.2024 14:13:33 +0100

# ENVIRONMENTAL PRODUCT DECLARATION

## 1. PRODUCT DESCRIPTION AND USE

The GLOBAL series is a range of TESA ASSA ABLOY PANIC EXIT DEVICES, Type A or push type, operated by means of a steel tube. Suitable for fire doors, they are CE certified according to UNE-EN1125. They stand out for their easy reversibility and for their narrow supports for small profile dimensions.

Subseries included in the scope of this study:
• GL1E (mortise solution – does not include locking elements as it is the lock on which it acts that provides the locking points),
• GL1S (one lateral locking point),
• GL2S (2 vertical locking points),
• GL3S (3 vertical locking points),
• GL3L (3 lateral locking points),
• GL20 (2 vertical bolt locking points).

Within this GLOBAL series all the exit devices have the same category of use (high frequency), durability (200,000 cycles), door mass (<=200kg), corrosion resistance (<=96h), projection of the horizontal bar (<=100mm) and the same safety grade according to CE classification.
All products in the series can be installed on single or double-leaf doors.
The differences between the exit devices of the same series are mainly due to: The components, the length of the horizontal bar and the finishes.
The inventory data of the GL3S exit device is used for the study as it is the most unfavorable product in terms of number of components (3 anchor points), weight, and design.

Application

GLOBAL panic exit devices are ideal for a wide range of applications. They are very easy to install due to the minimal number of screws required, easy reversibility and the option to cut the tube to fit the door dimensions, coupled with a revamped design featuring new lines and material concepts.

Technical specifications and functional performance:
• Suitable for use on fire doors
• EN 1125 certified
• Low opening forces
• Reversible
• Narrow supports
• Can be cut to size
• Microswitch option
• Suitable for single-leaf and double-leaf doors
• Wide range of TESA ASSA ABLOY outside access devices
• Bar length: 900-1200mm

## 1.1 Content information

### Product components

They are listed below.

### Packaging materials

They are listed below.

**PRODUCT GL3S (bar length 1200 LENGTH 1200, GREY-GREY FINISH)**

| COMPONENTS | MASS (g) | % |
|---|---|---|
| STEEL | 1548,12 | 37,45% |
| CARBON STEEL | 910,76 | 22,03% |
| STAINLESS STEEL | 1,33 | 0,03% |
| ABS | 6,62 | 0,16% |
| ALUMINUM | 374 | 9,05% |
| ZAMAK | 1243,13 | 30,07% |
| PP | 0,71 | 0,02% |
| PC+ABS | 39,28 | 0,95% |
| PAPER (INSTRUCTION SHEET) | 10 | 0,24% |
| **TOTAL** | **4133,95** | **100,00%** |

| PACKAGING MATERIALS | MASS (g) | % |
|---|---|---|
| Cardboard and paper | 358,00 | 74% |
| White polyester | 10,00 | 2% |
| PVC | 48,00 | 10% |
| Wooden pallet | 67,21 | 14% |
| **TOTAL** | **483,21** | **100%** |

# 2. DESCRIPTION OF THE STAGES OF THE LIFE CYCLE

## 2.1. Manufacturing (A1, A2 y A3)

### Raw Materials and transport (A1 y A2)

Module A1 includes the supply of raw materials for the product and packaging (raw materials to be processed in TESA's plant or components already formed by suppliers).

The GLOBAL exit device product consists mainly of steel, carbon steel, zamak, and aluminum components.

Module A2 includes the transport of raw materials and packaging to TESA's factory in Eskoriatza (Guipuzkoa). The distance and type of truck has been entered for each raw material and packaging, the average calculated based on the distances to the various suppliers and weighted with the quantities delivered in 2022.

### Manufacturing (A3)

Stage A3 considers the energy use of the production process, the production and transport of auxiliary materials (chemicals, varnishes, lubricants, etc.), the treatment of waste generated during production, and the emissions from the production process and the discharge analysis.

The product is manufactured at TESA in Eskoriatza (Spain), although some components are purchased ready-made and only assembled.

Once final testing is completed, the exit device is packed in cardboard boxes for the trip which are then put in travel boxes, and in turn these boxes are put in a box pallet for transport to their end destination.

The exit device is packed in an individual transport box which also includes all the accessories required for its installation: User instructions, hardware, etc.

The manufacturing process can be summarized in the following phases:

- PHASE 1 – MACHINING, TURNING, AND NICKEL PLATING OF THE EXIT DEVICE
- PHASE 2 - STAMPING AND EXTERNAL ZINC PLATING OF THE STRIP
- PHASE 3 – PURCHASING EXTERNAL COMPONENTS AND NICKEL PLATING OF SOME OF THEM
- PHASE 4 – SUBASSEMBLY ASSEMBLY
- PHASE 5 – MECHANICAL TESTING
- PHASE 6 – PACKAGING
- PHASE 7 – SHIPPING

## 2.2. Construction process stage (A4 y A5)

### Transport to the building site (A4)

The transport to the installation site stage has been calculated based on the weighting of 2022 sales (of all the GLOBAL Series panic exit device) by country and theoretically according to the CPR of 3.500 km in a 16-32 tn EURO 6 truck for those countries accounting for less than 1%.

**Table 1. Basic of a scenario with the parameters described in the following table**

| Destinations | Type of transport | Percentage | Average km |
|---|---|---|---|
| Spain | Truck 16-32 Tn EURO VI | 59.4 | 475 |
| Europe | Truck 16-32 Tn EURO VI | 11.3 | 2108 |
| Rest of the world | Truck 16-32 Tn EURO IV, VI | 3.9 | 1288 |
| | Container ship | 25.4 | 8486 |

### Product installation process and construction (A5)

According to the CPR, it can be assumed that manual installation is the default way to install hardware on doors and windows or directly in buildings. This entails zero impacts to be declared in module A5 arising from the machining of the door where it is installed.

The product requires greasing according to the manufacturer's technical data sheet. It is estimated at 5 g of grease oil at the installation stage.

This installation stage also includes the impacts of the end-of-life of the product's packaging (cardboard, paper, film, and wooden pallet).

It is managed as follows in plants at a distance of 50 km from the installation site:

- Paper and cardboard waste: 85% recycling, 15% landfill (PEF, 2022).
- Wood waste (pallets): Pallets are reused an estimated average of six times (sector).
- Plastic waste: 42% recycling, 40% incineration, 18% landfill (Eurostat, 2022).

## 2.3. Product use (B1-B7)

### Use (B1)

Once installed, the product does not require any material or energy inputs for use after installation.

### Maintenance (B2)

It requires greasing according to the manufacturer's technical datasheet. Estimated at 5 g of grease oil once a year during its service life.

### Repair (B3)

Under normal operating conditions, it does not require any kind of repairs during its service life.

### Replacement (B4)

Under normal operating conditions, it does not require any kind of replacement during its service life.

### Refurbishment (B5)

Under normal operating conditions, it does not require any kind of rehabilitation during its service life.

### Operational energy use (B6)

Mechanical panic exit device. Once installed, the product does not require any energy input for use after installation.

### Operational water use (B7)

The product does not require any water input for use.

## 2.4. End of life (C1-C4)

### Deconstruction and demolition (C1)

At the end of its service life, the product will be removed during demolition. In the context of the demolition of a building, the impacts attributable to the removal of the product are negligible.

### Transport to waste processing (C2)

The product's waste is shipped by 16-32 ton truck complying with the Euro VI standard over a distance of 50 km to the treatment plant.

### Waste processing for reuse, recovery and/or recycling (C3)

According to EUROSTAT> Recovery rate of construction and demolition waste, a recycling and recovery for reuse scenario of 90% is considered.

When a material is sent for recycling, the electricity usage of a crusher (corresponding to the process "Grinding, metals") is taken into account.

### Disposal (C4)

The remaining % not included in module C3 is expected to go to landfill: 10%.

## 2.5. Reuse/recovery/recycling potential (D)

The net impacts of recycling the exit device have been considered as follows:

• Metal waste: 90% recycling.
(subtracting the 23% considered as already recycled in the source raw material).

The difference between the avoided impacts of no longer extracting virgin metal and the impact of the second metal transformation (scrap) is considered for the calculations.

## 3. LIFE CYCLE ASSESSMENT

Carrying out a “cradle to grave” Life Cycle Assessment, covering the stages of product manufacture, construction, use and end-of-life according to ISO 14040:2006 and ISO 14044:2006 of the products, taking into account the environmental impacts (UNE-EN 15804+A2:2019/AC2021) according to the Product Category Rules PCR 100 Environmental Product Declaration for construction products in general (version 3 – 27/05/2021).
Supplemented with EN 17610 Building hardware - Environmental product declarations - Product category rules complementary to EN 15804 for building hardware.
The application used is Simapro version 9.3.0.2, 2022.
Specific data from the manufacturing plant at Eskoriatza (Gipuzkoa) for 2022 have been used to inventory the manufacturing stage. Generic data from the Ecoinvent v3.8 database have been used for the rest of the stages.

### 3.1. Functional Unit

The functional unit of this study is defined as a GLOBAL exit device unit used over the reference service life of 30 years corresponding to a minimum of 200.000 use cycles. Excluding the lock if required on any model.

The mass of the exit device corresponds to the worst case: 4.133 g (worst case GLOBAL series: GL3L).

For a geographical and technological environment of Spain in the year of production for 2022.

### Additional comments

-

### 3.2. Scope and modules that are declared

**Table 2. Declared modules**

| Product stage | | | Construction Process Stage | | Use stage | | | | | | | End of life stage | | | | Benefits and loads beyond the system boundaries |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Raw materials supply | Transport | Manufacturing | Transport | Construction - Installation process | Use | Maintenance | Repair | Replacement | Refurbishment | Operational energy use | Operational water use | De-construction | 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 | X | X | X | X | X | X | X | X | X | X | X | X |

**X** = Declared module **MND** = Undeclared module

## 3.3. LCA results of potential environmental impact referred to the declared unit (ACV)

### Table 3. Parameters of environmental impact

| Parameter | Unit | Life cycle stage | | | | | | | | | | | | | | | | Module D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Product stage | | | Construction Process Stage | | Use stage | | | | | | | End of life stage | | | | |
| | | A1 | A2 | A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 | |
| Climate change - total (GWP-total) | kg CO2 eq | 2,68E+01 | 3,23E-01 | 6,19E+00 | 7,06E-01 | 2,22E-01 | 0,00E+00 | 1,79E-01 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 3,37E-02 | 9,15E-02 | 2,18E-03 | -3,18E+00 |
| Climate change - fossil (GWP-fossil) | kg CO2 eq | 2,64E+01 | 3,23E-01 | 6,16E+00 | 7,05E-01 | 9,45E-02 | 0,00E+00 | 1,78E-01 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 3,37E-02 | 9,29E-02 | 2,18E-03 | -3,21E+00 |
| Climate change - biogenic (GWP-biogenic) | kg CO2 eq | 3,49E-01 | 2,79E-04 | 2,52E-02 | 4,70E-04 | 1,20E-01 | 0,00E+00 | 8,01E-04 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 2,91E-05 | -1,63E-03 | 2,16E-06 | 2,82E-02 |
| Climate change - land use and changes in land use (GWP-luluc) | kg CO2 eq | 4,98E-02 | 1,29E-04 | 3,94E-03 | 3,28E-04 | 5,59E-06 | 0,00E+00 | 1,49E-04 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 1,35E-05 | 1,77E-04 | 2,06E-06 | 4,17E-04 |
| Ozone layer depletion (ODP) | kg CFC 11 eq | 1,39E-06 | 7,48E-08 | 1,34E-06 | 1,59E-07 | 4,17E-09 | 0,00E+00 | 1,13E-07 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 7,80E-09 | 1,23E-08 | 8,80E-10 | -1,09E-07 |
| Acidification (AP) | mol H+ eq | 1,73E-01 | 9,16E-04 | 2,07E-02 | 6,18E-03 | 6,78E-05 | 0,00E+00 | 1,33E-03 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 9,56E-05 | 1,11E-03 | 2,05E-05 | -9,63E-03 |
| Eutrophication of fresh water (EP-freshwater) | kg P eq | 1,36E-03 | 2,30E-06 | 1,56E-04 | 4,53E-06 | 2,11E-07 | 0,00E+00 | 5,62E-06 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 2,40E-07 | 4,52E-06 | 2,28E-08 | -1,34E-04 |
| Eutrophication of sea water (EP-marine) | kg N eq. | 3,07E-02 | 1,82E-04 | 4,60E-03 | 1,44E-03 | 1,02E-04 | 0,00E+00 | 1,83E-04 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 1,90E-05 | 2,44E-04 | 7,08E-06 | -2,32E-03 |
| Terrestrial eutrophication (EP-terrestrial) | mol N eq. | 3,27E-01 | 2,03E-03 | 3,92E-02 | 1,61E-02 | 1,53E-04 | 0,00E+00 | 2,06E-03 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 2,12E-04 | 2,81E-03 | 7,79E-05 | -2,73E-02 |
| Photochemical ozone formation (POCP) | kg NMVOC eq | 1,04E-01 | 7,80E-04 | 1,40E-02 | 4,60E-03 | 1,84E-04 | 0,00E+00 | 3,85E-03 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 8,14E-05 | 7,75E-04 | 2,27E-05 | -1,77E-02 |
| Depletion of abiotic resources - minerals and metals (ADP-minerals&metals) | kg Sb eq | 2,44E-03 | 1,14E-06 | 5,39E-05 | 2,19E-06 | 1,02E-07 | 0,00E+00 | 2,78E-06 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 1,19E-07 | 1,10E-05 | 4,96E-09 | 6,86E-06 |
| Depletion of abiotic resources - fossil fuels (ADP-fossil) | MJ, net calorific value | 3,04E+02 | 4,89E+00 | 1,38E+02 | 1,04E+01 | 3,31E-01 | 0,00E+00 | 8,95E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 5,10E-01 | 1,28E+00 | 6,08E-02 | -2,54E+01 |
| Water consumption (WDP) | m3 worldwide eq. private | 9,85E+00 | 1,49E-02 | 3,32E+00 | 2,91E-02 | 2,11E-03 | 0,00E+00 | 5,39E-02 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 1,55E-03 | 1,69E-02 | 2,74E-03 | -2,44E-01 |
| The Indicador includes all greenhouse gases included in GWP-total but excludes biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. This Indicador is thus equal to the GWP Indicador originally defined in EN 15804:2012+A1:2013. Can be obtained from IPCC characterization factors. | | | | | | | | | | | | | | | | | | |
| Global Warming Potential (GHG) | kg CO2 eq | 2,60E+01 | 3,20E-01 | 6,02E+00 | 7,00E-01 | 1,73E-01 | 0,00E+00 | 1,75E-01 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 3,34E-02 | 9,19E-02 | 2,14E-03 | -3,03E+00 |

**A1** Supply of raw materials. **A2** Transport to waste processing. **A3** Manufacturing. **A4** Transport to waste processing. **A5** Installation and construction processes. **B1** Use. **B2** Maintenance. **B3** Repair. **B4** Replacement. **B5** Refurbishment. **B6** Operational energy use. **B7** Operational water use. **C1** Deconstruction and demolition. **C2** Transport to waste processing. **C3** Waste management for reuse, recovery and recycling. **C4** Fine removal. **D** Environmental benefits and burdens beyond the system boundary. **MND** Undeclared module.

## Table 4. Parameters for the use of resources, waste and output material flows

| Parameter | Unit | Life cycle stage | | | | | | | | | | | | | | | | Module D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Product stage | | | Construction Process Stage | | Use stage | | | | | | | End of life stage | | | | |
| | | A1 | A2 | A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 | |
| Use of renewable primary energy excluding renewable primary energy resources used as feedstock | MJ, net calorific value | 3,80E+01 | 6,99E-02 | 7,61E+00 | 1,34E-01 | 9,32E-03 | 0,00E+00 | 1,87E-01 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 7,29E-03 | 1,99E-01 | 5,19E-04 | 1,31E+00 |
| Use of renewable primary energy used as raw material | MJ, net calorific value | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Total use of renewable primary energy (primary energy and renewable primary energy resources used as feedstock) | MJ, net calorific value | 3,80E+01 | 6,99E-02 | 7,61E+00 | 1,34E-01 | 9,32E-03 | 0,00E+00 | 1,87E-01 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 7,29E-03 | 1,99E-01 | 5,19E-04 | 1,31E+00 |
| Non-renewable primary energy use, excluding non-renewable primary energy resources used as feedstock | MJ, net calorific value | 3,04E+02 | 4,89E+00 | 1,38E+02 | 1,04E+01 | 3,31E-01 | 0,00E+00 | 8,95E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 5,10E-01 | 1,28E+00 | 6,08E-02 | -2,54E+01 |
| Use of non-renewable primary energy used as raw material | MJ, net calorific value | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Total use of non-renewable primary energy (primary energy and renewable primary energy resources used as feedstock) | MJ, net calorific value | 3,04E+02 | 4,89E+00 | 1,38E+02 | 1,04E+01 | 3,31E-01 | 0,00E+00 | 8,95E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 5,10E-01 | 1,28E+00 | 6,08E-02 | -2,54E+01 |
| Use of secondary materials | kg | 9,51E-01 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Use of renewable secondary fuels | MJ, net calorific value | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Use of non-renewable secondary fuels | MJ, net calorific value | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Net use of freshwater resources | m3 | 9,71E+00 | 1,50E-02 | 3,30E+00 | 2,94E-02 | 2,07E-03 | 0,00E+00 | 5,32E-02 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 1,56E-03 | 1,68E-02 | 2,74E-03 | -2,34E-01 |
| Hazardous waste removed | kg | 1,13E-02 | 1,28E-05 | 1,39E-04 | 2,40E-05 | 6,75E-07 | 0,00E+00 | 1,79E-05 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 1,33E-06 | 3,70E-06 | 9,19E-08 | -4,27E-04 |
| Non-hazardous waste eliminated | kg | 6,70E+00 | 2,56E-01 | 2,29E+00 | 4,53E-01 | 5,94E-02 | 0,00E+00 | 1,86E-02 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 2,67E-02 | 3,95E-02 | 4,13E-01 | 4,46E-01 |
| Radioactive waste disposed of | kg | 9,04E-04 | 3,31E-05 | 6,82E-04 | 7,03E-05 | 1,89E-06 | 0,00E+00 | 5,09E-05 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 3,45E-06 | 7,57E-06 | 3,98E-07 | 4,77E-05 |
| Components for reuse | kg | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Materials for recycling | kg | 0,00E+00 | 0,00E+00 | 4,20E-01 | 0,00E+00 | 3,29E-01 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 3,72E+00 | 0,00E+00 | 0,00E+00 |
| Materials for energy recovery (energy recovery) | kg | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 2,32E-02 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Exported energy | MJ by energy vector | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 1,25E-03 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |

**A1** Supply of raw materials. **A2** Transport to waste processing. **A3** Manufacturing. **A4** Transport to waste processing. **A5** Installation and construction processes. **B1** Use. **B2** Maintenance. **B3** Repair. **B4** Replacement. **B5** Refurbishment. **B6** Operational energy use. **B7** Operational water use. **C1** Deconstruction and demolition. **C2** Transport to waste processing. **C3** Waste management for reuse, recovery and recycling. **C4** Fine removal. **D** Environmental benefits and burdens beyond the system boundary. **MND** Undeclared module.

**Table 5. Kg of biogenic carbon**

| | |
|---|---|
| Carbon content (biogenic) - packaging | 0,21 |
| Carbon content (biogenic) - product | 0,0 |

## 3.4. Recommendations of this EPD

Construction products should be compared on the basis of the same functional unit and at building level, i.e. including the performance of the product over its entire life cycle.

Environmental product declarations of different type III eco-labeling schemes are not directly comparable as the calculation rules may be different.

## 3.5. Cut-off rules

General cut-off criteria are given in EN 15804, clause 6.3.5. This clause states that a maximum of 1% of the energy and raw material use per process unit can be excluded. This is provided that the total amount excluded does not exceed 5% of the total energy or material use for a module (A1, A2, A3, etc.).
More than 95% of all mass and energy inputs and outputs of the system have been included.
Infrastructure for machinery, production facilities and offices are estimated to contribute less than 1% and are therefore not included.

Allocation rules:
The polluter pays principle and the modularity principle (environmental burdens are allocated to the stage where the impact occurs) have been followed in the LCA.
Usage of energy, water, auxiliary materials and internal waste production has been allocated equally between all products through mass allocation (based on total production).

## 3.6. Additional environmental information

The product has the following certifications:

- RADIO EQUIPMENT DIRECTIVE 2014/53/EU
- ROHS 2 DIRECTIVE 2011/65/EU
- ROHS 3 DIRECTIVE 2015/863/EU
- UNE-EN 60529:2018 (IP56)
- EN15684
- Fire EN 1634-1:2014+A1:2018 (RF60)

TESA ASSA ABLOY is ISO 9001 and ISO 14001 certified.

## 3.7. Other data

According to EUROSTAT>Recovery rate of construction and demolition waste, a recycling and recovery for reuse scenario of 90% and the remaining 10% to landfill is estimated.

# 4. ADDITIONAL TECHNICAL INFORMATION AND SCENARIOS

## 4.1. Transport to the building site (A4)

| Parameter | Parameter expressed per functional unit |
|---|---|
| Type and fuel consumption, type of vehicle used for transportation | Road: Truck between 16 and 32 tons. Euro VI, uses 0.047 kg/ton/km diesel. |
| Distance | Transport by road and ship depending on sales in each country. |
| Capacity utilization (including empty return) | Road transport: 100% Ecoinvent 3.5 database-driven. |
| Apparent density of transported product | 7.850 kg/m3 |
| Useful capacity factor (1, <1 or >1 for products that are packed compressed or nested) | 1 |

## 4.2. Installation processes (A5)

| Parameter | Parameter expressed per functional unit |
|---|---|
| Auxiliary materials for construction (specifying each material) | 5 g grease oil. |
| Water use | N/A |
| Use of other resources | N/A |
| Quantitative description of the type of energy (regional mix) and consumption during the installation process | N/A |
| Waste of materials in the work before the treatment of waste, generated by the installation of the product (specify by type) | 10 g paper<br>348 g cardboard<br>10 g PE<br>48 g PVC<br>67 g wood (pallet) |
| Material outputs (specified by type) as a result of waste treatment on the building site. For example: collection for recycling, energy recovery, disposal (specified by route) | • Paper and cardboard waste: 85% recycling, 15% landfill (PEF, 2022)<br>• Wood: 100% reused – 6 reuses (Manufacturer data 2019)<br>• Plastic waste: 42% recycling, 40% incineration, 18% landfill (Eurostat, 2022). |
| Direct emissions to air, soil and water | N/A |

## 4.3. Reference life (B1)

| Parameter | Parameter expressed per functional unit |
|---|---|
| Reference Lifetime (RSL) | 30 years corresponding to a minimum of 200.000 use cycles |
| Characteristics and properties of the product | Push panic exit device |
| Requirements (conditions of use, frequency of maintenance, repair, etc.) | N/A |

## 4.4. Maintenance (B2), Repair (B3), Replacement (B4), or Refurbishment (B5)

### Maintenance (B2)

| Parameter | Parameter expressed per functional unit |
|---|---|
| Maintenance process, for example; cleaning agent, surfactant type | 5 g grease oil x 29 years (once per year) |
| Maintenance cycle | N/A |
| Auxiliary materials for the maintenance process (specifying each material) | N/A |
| Energy inputs for the maintenance process (quantity and type of energy vector) | N/A |
| Net consumption of fresh water during maintenance or repair | N/A |
| Material waste during maintenance (specifying the type) | N/A |

### Repair (B3)

| Parameter | Parameter expressed per functional unit |
|---|---|
| Repair process | N/A |
| Proceso de inspección | N/A |
| Repair cycle | N/A |
| Auxiliary materials (specifying each material], for example lubricant | N/A |
| Interchange of parts during the product life cycle | N/A |

| Parameter | Parameter expressed per functional unit |
|---|---|
| Energy inputs during maintenance, type of energy, example: electricity, and quantity | N/A |
| Energy input during the repair, renovation, replacement process if applicable and relevant (quantity and type of energy vector) | N/A |
| Material waste during repair (specifying each material) | N/A |
| Consumo neto de agua dulce | N/A |

## Replacement (B4)

| Parameter | Parameter expressed per functional unit |
|---|---|
| Energy input during substitution, for example for the use of cranes (quantity and energy vector) | N/A |
| Change of worn parts in the product life cycle (specifying each material) | N/A |
| Net freshwater consumption | N/A |

## Refurbishment (B5)

| Parameter | Parameter expressed per functional unit |
|---|---|
| Rehabilitation process | N/A |
| Rehabilitation cycle | N/A |
| Energy input during rehabilitation, for example for the use of cranes (quantity and energy vector) | N/A |
| Input material for rehabilitation, including auxiliary materials (specifying by material) | N/A |
| Waste of material during rehabilitation (specifying each material) | N/A |
| Other scenario development assumptions | N/A |

## 4.5. Reference life

| Parameter | Parameter expressed per functional unit |
|---|---|
| Reference life | 30 years corresponding to a minimum of 200.000 use cycles |
| Declared properties of the product, finishes, etc. | N/A |
| Application design parameters (manufacturer's instructions) | N/A |
| Estimation of the quality of execution, when installed according to the manufacturer's instructions | N/A |
| Outdoor environment for outdoor applications. For example, weather, pollutants, UV radiation, temperature, etc. | N/A |
| Indoor environment for indoor applications. For example, temperature, humidity, chemical exposure | N/A |
| Terms of use. For example, frequency of use, mechanical exposure, etc. | N/A |
| Maintenance. For example, the required frequency, etc. | N/A |

## 4.6. Operational energy use (B6) and operational water use (B7)

| Parameter | Parameter expressed per functional unit |
|---|---|
| Auxiliary materials (specified by material) | N/A |
| Type of energy vector. For example, electricity, natural gas, district heating | N/A |
| Equipment output power | N/A |
| Net freshwater consumption | N/A |
| Characteristic features (energy efficiency, emissions, etc.) | N/A |
| Other scenario development assumptions. For example, transportation | N/A |

### 4.7. End of life (C1-C4)

| | Process | | |
|---|---|---|---|
| | Collection processes (specified by types) | Recovery systems (specified by type) | Elimination |
| | kg collected with mixed construction waste | kg | kg for final disposal |
| | 4.133 | 3.72 | 0.413 |
| Assumptions for scenario development | Metals: 90% recycling; 10% landfill | | |

## 5. ADDITIONAL INFORMATION

## 6. PCR AND VERIFICATION

### This statement is based on Document

RCP 100 (version 3 - 27/05/2021) Construction products in general

### Independent verification of the declaration and data, in accordance with ISO 14025 and IN RCP 100 (version 3 - 27/05/2021)

☑ External

### Third party Verifier

Josep Manuel Giner Pallarés
Accredited by the administrator of the DAPcons® Programme

### Verification date:

07/10/2024

### References

PRODUCT LIFE CYCLE ANALYSIS: GLOBAL panic exit device
By: ECOPENTA SL. August 2024 (v2) (unpublished)

**Programme Manager**

Colegio de la Arquitectura Técnica de Barcelona (Cateb)
Bon Pastor, 5 · 08021 Barcelona www.apabcn.cat