DAPcons®.100.138

DECLARACIÓN AMBIENTAL DE PRODUCTO
ENVIRONMENTAL PRODUCT DECLARATION

According to the standards:
ISO 14025 y EN 15804 + A2:2020

cateb
Arquitectura Tècnica
Barcelona

dapcons®

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GENERAL INFORMATION

Product

TRAFFIC/316L Series Handles

Company

Product description

Door opening device with encapsulated recoil spring.
The mounting plate may be long, square or a round rose. The lever is reversible. It is rust resistant (EN 1670) and fire resistant. It is fixed to the door by means of through bolts.

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: 18/01/2023 Until: 18/01/2028

The validity of DAPcons®.100.138 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

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EXECUTIVE SUMMARY

TRAFFIC/316L Series Handles

	DAPconstruction® PROGRAMME 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
	Declaration Holder Talleres de Escoriaza SAU Barrio Ventas 35 20305 - GUIPUZCOA (España) www.tesa.es
	Statement made by: ECOPENTA SL C/ Tuset 19, 1º 3ª, 08006 - BARCELONA, España

Declared product

TRAFFIC/316L Series Handles

Geographic representation

Europe

Variability between different products

In this document the results of each of the products are declared individually.

Declaration number

DAPcons®.100.138

Registration date

15/09/2022

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

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Programme Verifier Signature

Josep Manuel Giner Pallarés. Verifier accredited by the administrator of the DAPcons® Programme

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ENVIRONMENTAL PRODUCT DECLARATION

1. DESCRIPTION OF THE PRODUCT AND ITS USE

Door opening device with encapsulated recoil spring.
The mounting plate may be long, square or a round rose. The lever is reversible. It is rust resistant (EN 1670) and fire resistant. It is fixed to the door by means of through bolts. It exceeds 500,000 cycles (the number of cycles required by EN 1906 is 200,000).

All the products included in this EPD are shown below. All of them can be fitted with a long, square or round rose mounting plate, although the handles shown below are listed for each series:

316L Series Handles:
- Sena
- Vector
- Cubo
- Xara
- Zafira
- FSB/Hamat
- Sevilla
- Knob

TRAFFIC Series Handles:
- Sena
- Cubo
- Tundra

The LCA and this environmental impact statement associated with TRAFFIC/316L Series handles have been drawn up on the basis of the worst case study of the products which make up the range. Specifically, the Inox 316L Series product has been analysed with FSB/Hamat handle and adapter and square mounting plate, manufactured in Eskoriatza. This is the worst case of those presented as it weighs more than all the other models.

The product does not contain substances on the REACH list of hazardous substances.

The composition is as follows:

	Weight (g)	%
Steel	76.01	5.17%
Stainless steel	1362.76	92.62%
Nylon	0.32	0.02%
Zamak-5	16.14	1.10%
Acetal Resin	16.10	1.09%
TOTAL	1471.34	100.00%

The packaging has the following composition:

Material type	Weight (g)	%
Paper with adhesive	0.50	0.24%
Cardboard	185.17	90.73%
PE plastic	5.50	2.69%
Wood (pallet)	12.917	6.33%
	204.087	100.00%

2. DESCRIPTION OF THE STAGES OF THE LIFE CYCLE

2.1. Manufacturing (A1, A2 y A3)

Raw Materials (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).
TRAFFIC/316L Series handles are mainly made of alloy steel components.

Module A2 includes the transport of raw materials and packaging to the TESA factory in Ezkoriatza (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 2021.

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 manufacturing process is divided into the following phases:

- PHASE 1 - STAMPING PRESS
- PHASE 2 - VIBRATING
- PHASE 3 - ASSEMBLY
- PHASE 4 - PACKAGING
- PHASE 5 - QUALITY TESTS: Salt spray, ageing chamber, mechanical tests (not included in the limits of the system as they are performed on a sample basis and at the Irun plant).
- PHASE 6 - SHIPPING: Once the product has been manufactured, it is packed for distribution.

2.2. Building (A4 y A5)

Transport of the product to the work (A4)

The transport to the installation site stage has been calculated based on the weighting of 2021 sales (of the TRAFFIC and 316L Series) by country (with countries accounting for more than 1%) 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. Scenarios applied for the transport of the product to the place of installation

Destinations	Type of transport	Percentage	Average km
Spain	Truck 16-32 Tn EURO VI	61	386
Europe	Truck 16-32 Tn EURO VI	11	847

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Destinations	Type of transport	Percentage	Average km
Rest of the world	Truck 16-32 Tn EURO IV, VI, Container ship	28	12000

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 installation itself. In particular, the handle is declared as a kit and includes the installation materials and so the production of all components is declared in A1.

Only the end-of-life impacts of the handle packaging (plastic, cardboard, adhesive paper and wooden pallet) are included at this stage. They are managed as follows in plants at a distance of 50 km from the installation site:

- Paper and cardboard waste: 85% recycling, 15% landfill (PEF, 2021).
- Plastic waste: 42% recycling, 40% energy recovery and 18% landfill (Reference: Plastic Europe 2018).
- Wood waste (pallets): Pallets are reused an estimated average of 6 times (sector).

2.3. Product use (B1-B7)

Use (B1)

This module includes the environmental aspects and impacts in normal use of the products, not including water and energy use. As it is a passive construction material, the value of this module is 0.

Maintenance (B2)

The product under study does not require any significant maintenance during its operational lifetime.

Repair (B3)

It does not require any repairs during its lifetime when used properly.

Substitution (B4)

No product replacement is required given the timeframe set for this study.

Rehabilitation (B5)

It does not require any kind of rehabilitation during its operational lifetime.

Operational energy use (B6)

It does not require any energy use during its operational lifetime.

Operational water use (B7)

It does not require any water use during its operational lifetime.

2.4. End of life (C1-C4)

Deconstruction and demolition (C1)

At the end of its operational 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.

Transportation (C2)

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

Waste management for reuse, recovery and 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.

Ultimate elimination (C4)

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

2.5. Potential environmental benefits and burdens beyond the system boundary (D)

The net impacts of recycling the handle have been considered as follows:
• Metal waste: 90% recycling.
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 ANALYSIS

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) according to the Product Category Rules PCR 100 Environmental Product Declaration for building hardware (v3 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 Ezkoriatza (Gipuzkoa) for 2021 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

A lever-operated door handle device to ensure the function of opening and holding doors and windows in buildings in a closed position with a net mass of 1.47 kg over the reference service life of 30 years corresponding to a minimum of 200,000 use cycles.

3.2. System limits

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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. Life cycle analysis data (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	1,19E+01	3,72E-01	2,37E+00	1,81E-01	7,24E-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	1,20E-02	9,20E-02	1,06E-02	-1,12E+00
Climate change - fossil (GWP-fossil)	kg CO2 eq	1,17E+01	3,72E-01	2,31E+00	1,81E-01	5,14E-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	1,20E-02	4,24E-02	1,06E-02	-1,13E+00
Climate change - biogenic (GWP-biogenic)	kg CO2 eq	2,18E-01	2,18E-05	5,08E-02	1,21E-04	6,35E-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	1,03E-05	4,76E-02	2,25E-06	9,90E-03
Climate change - land use and changes in land use (GWP-luluc)	kg CO2 eq	1,38E-02	2,46E-04	7,02E-03	8,38E-05	2,76E-07	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,79E-06	3,12E-05	9,72E-07	1,46E-04
Ozone layer depletion (ODP)	kg CFC 11 eq	6,15E-07	7,60E-08	4,94E-07	4,07E-08	1,55E-10	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,77E-09	4,16E-09	4,09E-10	-3,82E-08
Acidification (AP)	mol H+ eq	6,31E-02	9,80E-03	1,15E-02	1,63E-03	8,23E-06	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,40E-05	2,11E-04	1,23E-05	-3,38E-03
Eutrophication of fresh water (EP-freshwater)	kg P eq	4,01E-03	1,52E-05	5,79E-04	1,07E-05	1,24E-07	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	7,84E-07	1,29E-05	1,22E-07	-4,93E-04
Eutrophication of sea water (EP-marine)	kg N eq.	1,21E-02	2,42E-03	2,31E-03	4,01E-04	5,01E-05	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,91E-06	9,47E-05	3,13E-05	-8,80E-04
Terrestrial eutrophication (EP-terrestrial)	mol N eq.	1,22E-01	2,69E-02	1,99E-02	4,43E-03	2,60E-05	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	7,53E-05	6,37E-04	5,04E-05	-9,56E-03
Photochemical ozone formation (POCP)	kg NMVOC eq	3,79E-02	7,02E-03	6,35E-03	1,25E-03	2,08E-05	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,89E-05	1,80E-04	1,50E-05	-6,22E-03
Depletion of abiotic resources - minerals and metals (ADP-minerals&metals)	kg Sb eq	2,70E-04	6,80E-07	2,21E-05	5,62E-07	3,17E-09	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,24E-08	9,87E-07	3,34E-09	2,41E-06
Depletion of abiotic resources - fossil fuels (ADP-fossil)	MJ, net calorific value	1,34E+02	4,94E+00	4,25E+01	2,66E+00	1,10E-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	1,81E-01	4,11E-01	2,85E-02	-8,90E+00
Water consumption (WDP)	m3 worldwide eq. private	3,96E+00	1,03E-02	1,24E+00	7,46E-03	6,53E-05	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	5,52E-04	5,23E-03	1,40E-03	-8,58E-02
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	1,35E+01	0,00E+00	1,16E+01	3,70E-01	2,27E+00	1,79E-01	4,16E-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	1,19E-02	6,04E-02

A1 Supply of raw materials.**A2** Transportation. **A3** Manufacturing. **A4** Transportation. **A5** Installation and construction processes.**B1** Use. **B2** Maintenance. **B3** Repair. **B4** Substitution. **B5** Rehabilitation. **B6** Operational energy use.**B7** Operational water use.**C1** Deconstruction and demolition.**C2** Transportation. **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	2,69E+01	4,09E-02	5,88E+00	3,45E-02	1,33E-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	2,59E-03	3,99E-02	3,29E-04	4,60E-01
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	2,69E+01	4,09E-02	5,88E+00	3,45E-02	1,33E-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	2,59E-03	3,99E-02	3,29E-04	4,60E-01
Non-renewable primary energy use, excluding non-renewable primary energy resources used as feedstock	MJ, net calorific value	1,43E+02	5,24E+00	4,54E+01	2,82E+00	1,17E-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	1,93E-01	4,35E-01	3,04E-02	-9,37E+00
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	1,43E+02	5,24E+00	4,54E+01	2,82E+00	1,17E-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	1,93E-01	4,35E-01	3,04E-02	-9,37E+00
Use of secondary materials	kg	3,38E-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	3,92E+00	1,05E-02	1,24E+00	7,52E-03	6,09E-05	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	5,55E-04	5,19E-03	1,40E-03	-8,22E-02
Hazardous waste removed	kg	2,78E-04	6,64E-06	5,24E-05	6,17E-06	1,87E-08	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,74E-07	1,08E-06	4,96E-08	-1,50E-04
Non-hazardous waste eliminated	kg	9,22E+00	7,14E-02	7,16E-01	1,16E-01	2,91E-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	9,51E-03	4,14E-02	1,53E-01	1,56E-01
Radioactive waste disposed of	kg	3,38E-04	3,39E-05	1,85E-04	1,80E-05	7,17E-08	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,23E-06	2,56E-06	1,81E-07	1,67E-05
Components for reuse	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,26E-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
Materials for recycling	kg	0,00E+00	0,00E+00	4,06E+05	0,00E+00	2,08E-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	1,471*0,9	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	1,20E-04	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	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

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

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Table 5. Kg of biogenic carbon

Contenido Carbono (biogénico) - embalaje	0,044
Contenido Carbono (biogénico) - producto	0,00

3.4. Recommendations of this DAP

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-labelling schemes are not directly comparable as the calculation rules may be different. Product covered by this EPD: TRAFFIC/316L series handles.

3.5. Cutting 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, leaving out auxiliary materials that account for less than 1% of the total material use in module A3.
Also, 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 handles are EN 1125 and CE certified.
TESA ASSA ABLOY is ISO 9001 and ISO 14001 certified.
The U-shaped models also comply with the UNE-EN 179 standard.

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. Transportation from the factory to the construction 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 IV and 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 3.8 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)	None
Water use	None
Use of other resources	None
Quantitative description of the type of energy (regional mix) and consumption during the installation process	NA
Waste of materials in the work before the treatment of waste, generated by the installation of the product (specify by type)	5.5 g Plastic 0.5 g Paper 185 g Cardboard 12.9 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, 2021). • Plastic waste 42% recycling, 40% energy rec. and 18% landfill. (Reference: Plastic Europe 2018). • Wood: 100% reused – 6 reuses (Manufacturer data 2019).
Direct emissions to air, soil and water	NA

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

Parameter	Parameter expressed per functional unit
Characteristics and properties of the product	Handle with lever, stainless steel AISI 316L
Requirements (conditions of use, frequency of maintenance, repair, etc.)	NA

4.4. Maintenance (B2), Repair (B3), Substitution (B4), or Rehabilitation (B5)

Maintenance (B2)

Parameter	Parameter expressed per functional unit
Maintenance process, for example; cleaning agent, surfactant type	NA
Maintenance cycle	NA
Auxiliary materials for the maintenance process (specifying each material)	None
Energy inputs for the maintenance process (quantity and type of energy vector)	None
Net consumption of fresh water during maintenance or repair	None
Material waste during maintenance (specifying the type)	NA

Repair (B3)

Parameter	Parameter expressed per functional unit
Repair process	NA
Proceso de inspección	NA
Repair cycle	NA
Auxiliary materials (specifying each material], for example lubricant	None
Interchange of parts during the product life cycle	None
Energy inputs during maintenance, type of energy, example: electricity, and quantity	None

Parameter	Parameter expressed per functional unit
Energy input during the repair, renovation, replacement process if applicable and relevant (quantity and type of energy vector)	None
Material waste during repair (specifying each material)	NA
Consumo neto de agua dulce	None

Substitution (B4)

Parameter	Parameter expressed per functional unit
Energy input during substitution, for example for the use of cranes (quantity and energy vector)	None
Change of worn parts in the product life cycle (specifying each material)	NA
Net freshwater consumption	None

Rehabilitation (B5)

Parameter	Parameter expressed per functional unit
Rehabilitation process	NA
Rehabilitation cycle	NA
Energy input during rehabilitation, for example for the use of cranes (quantity and energy vector)	None
Input material for rehabilitation, including auxiliary materials (specifying by material)	None
Waste of material during rehabilitation (specifying each material)	None
Other scenario development assumptions	None

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.	NA
Application design parameters (manufacturer's instructions)	NA
Estimation of the quality of execution, when installed according to the manufacturer's instructions	NA
Outdoor environment for outdoor applications. For example, weather, pollutants, UV radiation, temperature, etc.	NA
Indoor environment for indoor applications. For example, temperature, humidity, chemical exposure	NA
Terms of use. For example, frequency of use, mechanical exposure, etc.	NA
Maintenance. For example, the required frequency, etc.	NA

4.6. Use of energy (B6) and water (B7) in service

Parameter	Parameter expressed per functional unit
Auxiliary materials (specified by material)	None
Type of energy vector. For example, electricity, natural gas, district heating	NA
Equipment output power	None
Net freshwater consumption	None
Characteristic features (energy efficiency, emissions, etc.)	NA
Other scenario development assumptions. For example, transportation	NA

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 for reuse	kg for recycling	kg for energy recovery	kg for final disposal
	1.45	0	1.3	0	0.161
Assumptions for scenario development	According to EUROSTAT>Waste for building products, a recycling and recovery scenario of 90% is considered for the reuse of the materials and the remaining 10% it is considered that goes to landfill.				

5. ADDITIONAL INFORMATION

6. RCP 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

ReMa-INGENIERÍA, S. L.

Verification date:

18/01/2023

References

PRODUCT LIFE CYCLE ANALYSIS:

- TRAFFIC/316 SERIES HANDLES (316L series, with FSB/Hamat handle and adapter and square mounting plate).

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Programme Manager

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